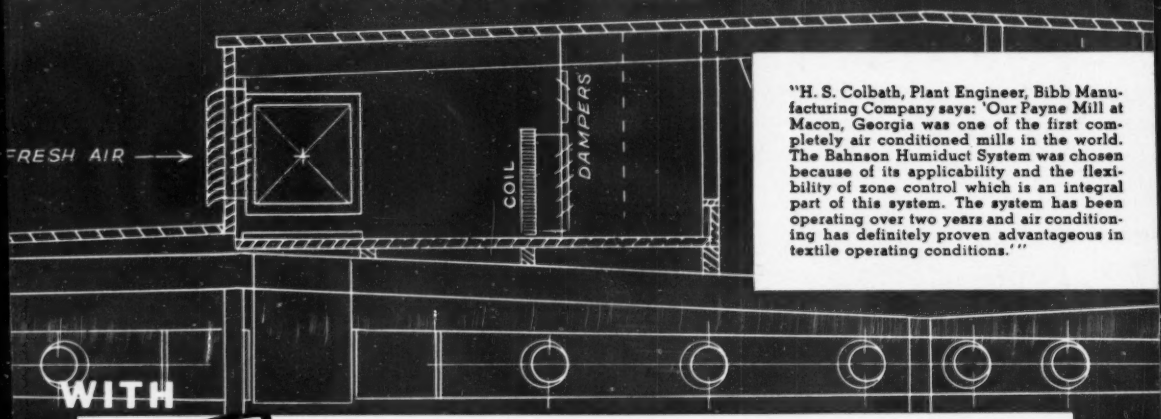
OCTOBER, 1951

Textile Industries

formerly COTTON Textile Industries

BIBB-PAYNE LOOKS AHEAD



"H. S. Colbath, Plant Engineer, Bibb Manufacturing Company says: 'Our Payne Mill at Macon, Georgia was one of the first completely air conditioned mills in the world. The Bahnson Humiduct System was chosen because of its applicability and the flexibility of zone control which is an integral part of this system. The system has been operating over two years and air conditioning has definitely proven advantageous in textile operating conditions.'"

WITH Bahnson HUMIDUCTS AND REFRIGERATION

FOR YEAR 'ROUND TEMPERATURE AND HUMIDITY CONTROL

The trend toward refrigeration in textile air conditioning is becoming more apparent each year.

Bahnson Humiducts with refrigeration provide an economical approach to the problem of complete conditioning in new or existing mills.

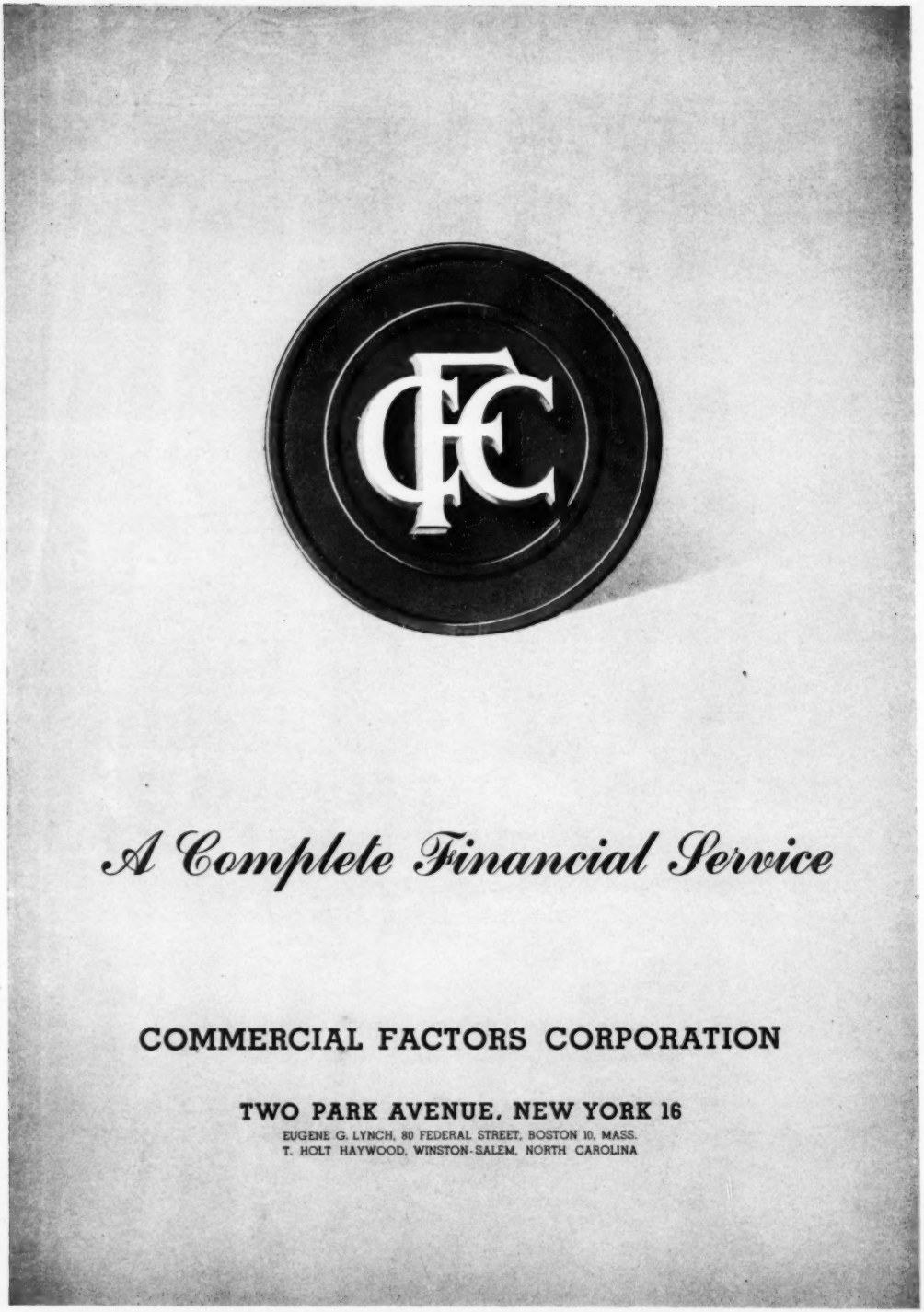
Note these savings

NO EXPENSIVE APPARATUS HOUSES
NO EXTENSIVE BUILDING CHANGES
NO SUPPLEMENTARY HUMIDIFICATION
NO COMPRESSED AIR REQUIRED

. . . . and remember

The inherent flexibility of the Humiduct System gives better control of temperature, humidity, and air movement . . . results in a better system at lower cost.

Bahnson Company
ENGINEERS AND MANUFACTURERS
WINSTON-SALEM, N. C.



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TWO PARK AVENUE, NEW YORK 16

EUGENE G. LYNCH, 80 FEDERAL STREET, BOSTON 10, MASS.
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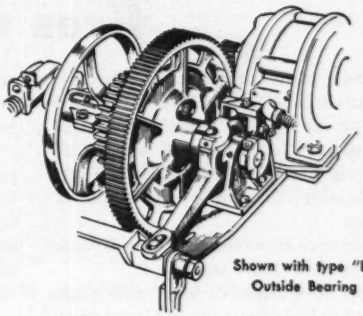
Volume 115 Number 10

Southern Manufacture Expedites Delivery

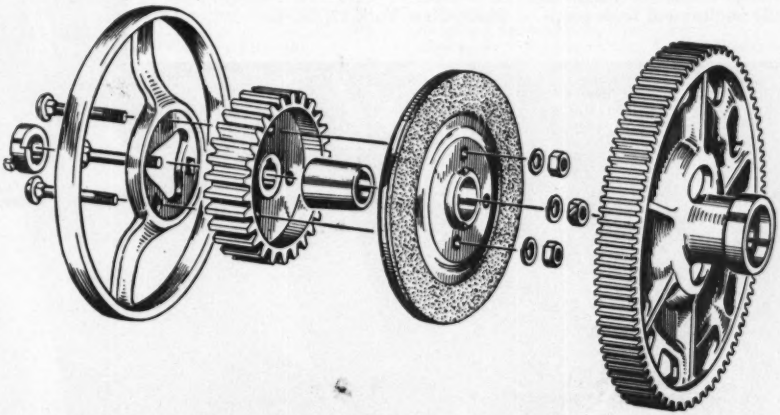
The demand for Draper #11 Drives for E Model looms has been so great that one set of patterns, jigs, and fixtures, has been sent to our East Spartanburg plant so that these drives can now be manufactured in our Southern shops.

Since orders for this drive will now be handled in the same way as orders for our repair parts, shipping costs will be decreased and deliveries speeded up for textile mills in the South.

Following the completion of this program, we will tool up for additional mechanisms at our modernized and enlarged East Spartanburg operation for speedier deliveries to our Southern customers.



Shown with type "B" Outside Bearing



The DRAPER #11 Drive reduces labor costs. While installing or servicing this drive, the crankshaft does not have to be removed from the loom. Installation time is cut to one hour.

Since the drive is equipped with an anti-friction thrust bearing, wear is immeasurably decreased on the component parts.

D

DRAPER CORPORATION

ATLANTA, GA. HOPEDALE, MASS. SPARTANBURG, S. C.

CLEANER YARN

. . . because TEXACO STAZON lives up to its name

Texaco Stazon does just what its name implies—it *stays on* the bearing surfaces, *stays off* the work. It won't creep out of top rolls, saddles, roll stands or shell roll mandrels. Used for loom crank and cam shaft bearings, *Texaco Stazon* won't splatter or drip.

You can count on cleaner yarn and fabric when you use *Texaco Stazon.*

Other advantages: *Texaco Stazon* is not affected by humidity, will not form gummy deposits, is easily applied and feeds properly in any lubricating system. *Texaco Stazon* is a long-lasting lubricant—does the job with fewer applications.

Many mills are eliminating oil-stain problems with *Texaco Stazon.* Let a Texaco Lubrication Engineer show you how you can do the same. Just call the nearest of the more than 2,000 Texaco Distributing Plants in the 48 States, or write:

☆ ☆ ☆

The Texas Company, 135 East 42nd Street, New York 17, N. Y.

Assure longer life, lower maintenance costs for anti-friction bearings. Lubricate with *Texaco Regal Starfak.* Definitely superior to ordinary grease in resistance to oxidation, gum formation, separation and leakage. Lasts longer, too.

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TEXACO Lubricants

FOR THE TEXTILE INDUSTRY

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ABC

Textile Industries

Volume 115, Number 10
October, 1951

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Where quality

is the

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in a fabric

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the beauty fiber

Celanese CORPORATION OF AMERICA, New York 16

RESEARCH KEEPS **B.F.Goodrich** FIRST IN RUBBER

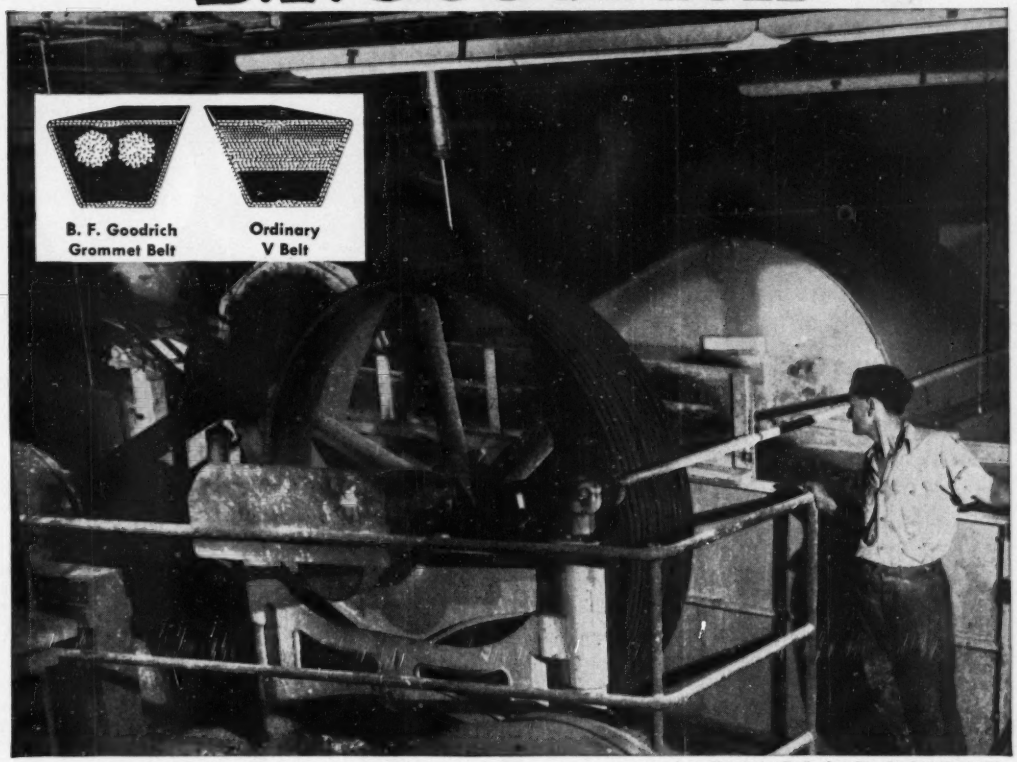


Photo courtesy Harding-Jones Paper Co., South Excello, Ohio

Drive headache cured with B. F. Goodrich grommet belts

B. F. Goodrich grommet V belts cut costs 20 to 50%

HERE was one of the biggest drive problems in this plant. The machine shown in the picture runs 24 hours a day, 7 days a week. Belts previously used couldn't handle the job. Motor bearings were burning out, belts were snapping under the shock load.

Then a B. F. Goodrich distributor suggested grommet belts to stand the jerks and hard pulls. Installed nine months ago, B. F. Goodrich grommet belts are still going strong, and look good for many more months of use. Here's why BFG grommet belts give longer service, save maintenance costs:

Endless — A grommet is endless, made by winding heavy cord on itself to form an endless loop. It has no overlapping cord sections. Because most of the failures in ordinary V belts occur in the region where cords overlap, the endless grommet belt eliminates such failures.

Concentrated cord strength — All of the cord material in a B. F. Goodrich grommet belt is *concentrated* in twin grommets, positioned close to the driving faces of the pulley. No layers of cords to rub against one another and generate heat; cord and adhesion failures are reduced.

Better grip, less slip — Because a grommet is endless, a grommet belt is more flexible, grips the pulleys better. Size for size, grommet belts will give ⅓ more gripping power, pull heavier loads with a higher safety factor.

Only B. F. Goodrich makes the grommet! — No other multiple-V belt is a grommet belt (U. S. Patent No. 2,233,294). Now available in C, D and E sections. See your local B.F.Goodrich distributor. Ask him to show you his "X-ray" belt that illustrates grommet construction clearly. *The B.F.Goodrich Company, Industrial & General Products Division, Akron, Ohio.*

Grommet Belts BY

B.F.Goodrich

RUBBER FOR INDUSTRY

Installation of Saco-Lowell Combers at China Grove Cotton Mills Company

29

DISTINCTIVE FEATURES ON THE SACO-LOWELL COMBER

AND 17 OF THEM ARE EXCLUSIVE!

THE SACO-LOWELL COMBER ASSURES THESE ADVANTAGES

- √ A better combed sliver.
- √ Remarkably uniform yard-to-yard and inch-to-inch sliver weights
- √ Accurate control of noil percentage from every head.
- √ Very small proportion of long-staple fibre in the noil.
- √ Materially increased production per head and per unit of floor space.
- √ Efficiency frequently reaches 90% and sometimes better.
- √ Negligible adjustment and maintenance costs.
- √ Lower unit costs for the complete combing operation.

THESE FEATURES MAKE POSSIBLE TWICE THE PRODUCTION OF THE CONVENTIONAL COMBER!

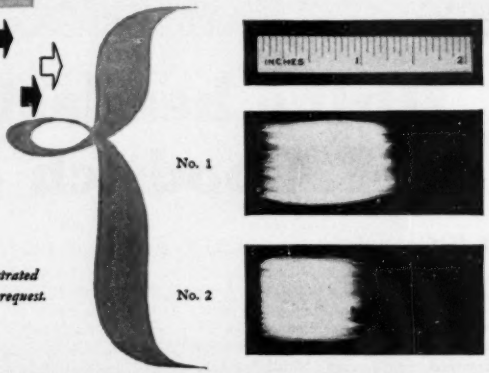
It's no wonder, then, that the manufacturer of combed yarns who is using Saco-Lowell combing equipment has important advantages over competition. He can substantially improve the quality of his product, save waste, and lower his manufacturing and maintenance costs.

Through its high degree of fibre selecting ability, the Saco-Lowell Comber can produce a yarn of superior sheen and bloom, and with less noils than **any other comber known.**

PULLED SAMPLES OF NOILS FROM TWO COMBERS

A Saco-Lowell Comber and Comber "C" were being tested simultaneously in a mill using 1 3/8" American cotton. The combers were adjusted to take out 17% waste. Sample No. 1, from Comber "C," contains 23.8% fibre over 1" long, as compared with 10.7% in Sample No. 2, from the Saco-Lowell Comber.

Regardless of the cost of cotton, the recovery of an additional 13.1% spinnable fibre has an appreciable effect on the cost of the yarn. It is a saving which no mill operating combers can afford to overlook.



COMBING IS AN ASSURANCE OF QUALITY.

. . . and the **Saco-Lowell Comber** *assures quality, with profit. An illustrated brochure giving technical and engineering data will be forwarded on request.*

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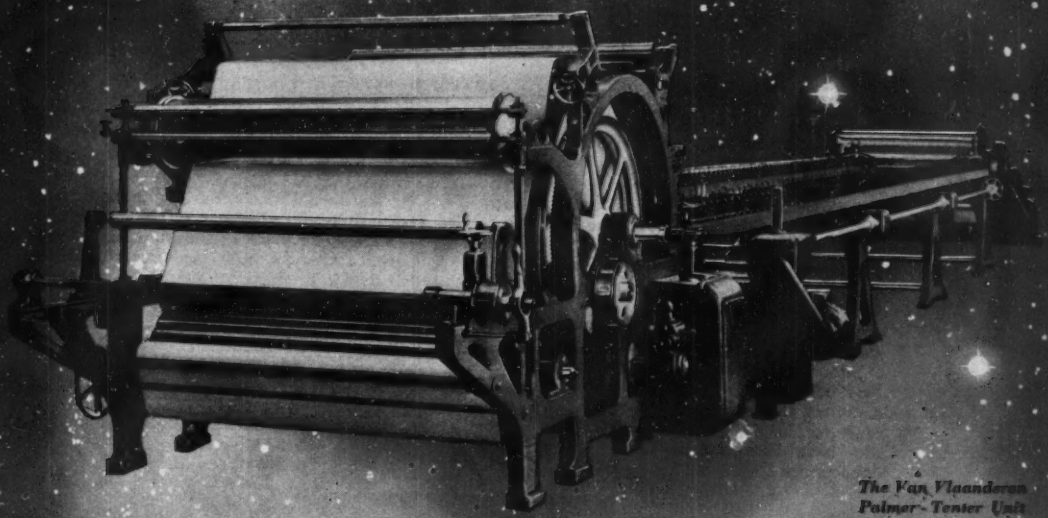
The Future Is Now

In 1895, when Peter Van Vlaanderen made his first machine, scientific developments, which today are accepted as commonplace, were just fanciful dream stuff. Now, at mid-century, electronics, atomic energy and a host of other wonders are accomplished facts.

No less remarkable is the growth of the synthetic textile fibers, now entering into a new phase.

Van Vlaanderen has led the way for nearly fifty years through imaginative design in developing machines for processing modern fabrics. The Palmer-Tenter Unit illustrated is the result of modern developments by our engineers to provide an advanced unit for continuous chemicising, impregnating and dyeing of the new synthetic rayons and broadgoods of natural fibers. It is of course built to the Van Vlaanderen standard of engineered dependability. Palmer, tenter and padder may also be bought individually.

Ask us to send you full technical data



The Van Vlaanderen Palmer-Tenter Unit

VAN VLAANDEREN

Van Vlaanderen Machine Company, 370 Straight Street, Paterson 3, New Jersey, U.S.A.

Southern Representative, Parrott and Ballentine, 610 South Carolina National Bank Bldg., Greenville, S. C.

Cable Address: Vlaanderen, Patersonnj, U. S. A.

World's largest manufacturer of machinery for processing modern fabrics

New growth for America's

Ever increasing demand for Fiberglas* yarn has required rapid expansion of our manufacturing facilities. The newest Fiberglas yarn plant has just been completed at Anderson, South Carolina, and is now swinging into capacity production.

The demand for Fiberglas yarn stems from its successful use in a diversity of important applications. As our laboratories and plants have developed new and improved Fiberglas materials, alert weavers, converters, and manufacturers have put them to work. As a result, they have discovered unprecedented market opportunities.

The Armed Forces are also demanding large quantities of Fiberglas yarns. The same combination of Fiberglas characteristics that has given such remarkable performance qualities to civilian products is important in vital military equipment.

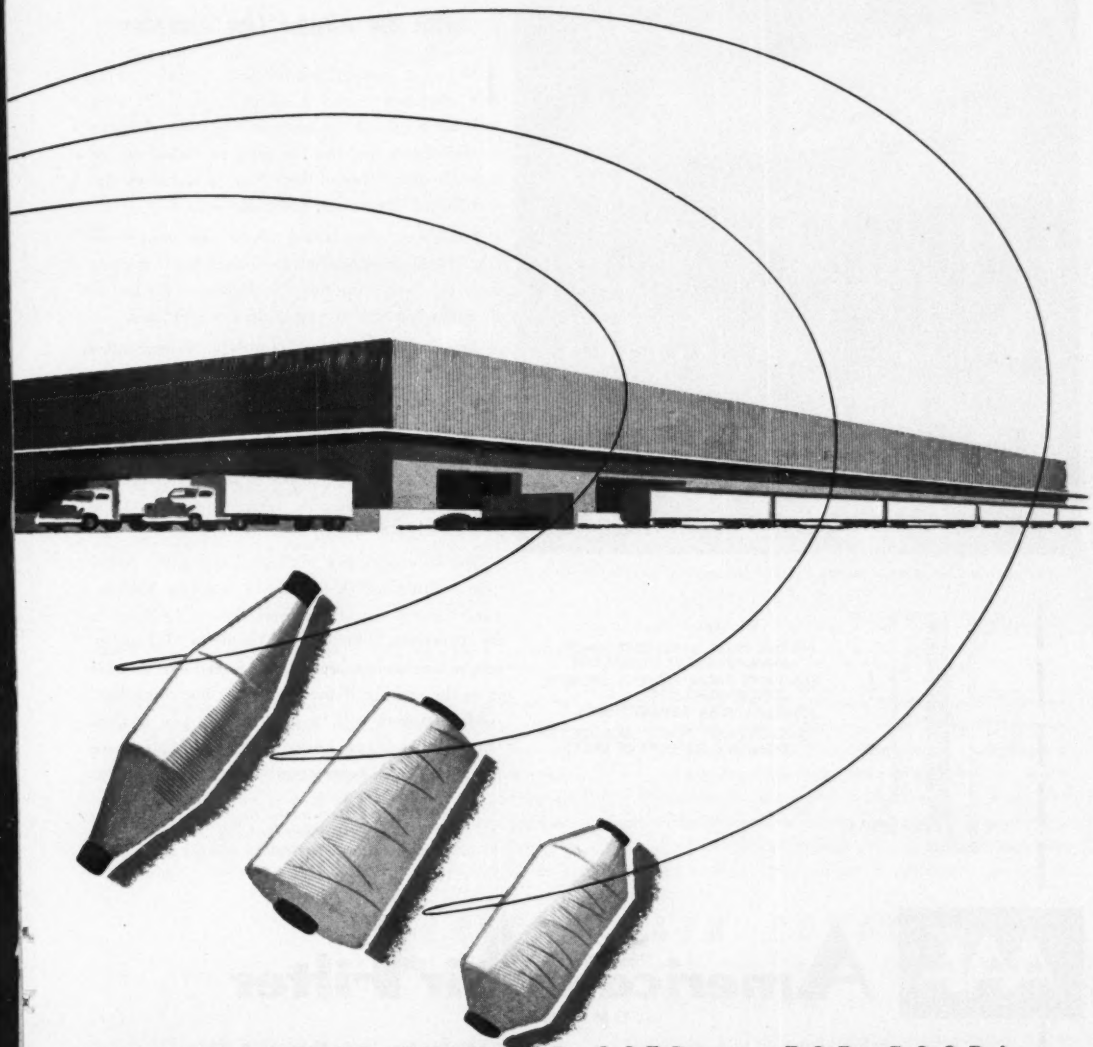
While military needs must, of course, come first, we believe that our new plant, plus the new production facilities now being added in existing mills, will help keep pace with your needs.

Owens-Corning Fiberglas Corporation,
Textile Products Division,
16 E. 56th St., New York 22, N. Y.

OWENS-CORNING
FIBERGLAS
Yarns

*Fiberglas is the trade-mark (Reg. U.S. Pat. Off.) of Owens-Corning Fiberglas Corporation for a variety of products made of or with fibrous glass.

fastest growing fiber!

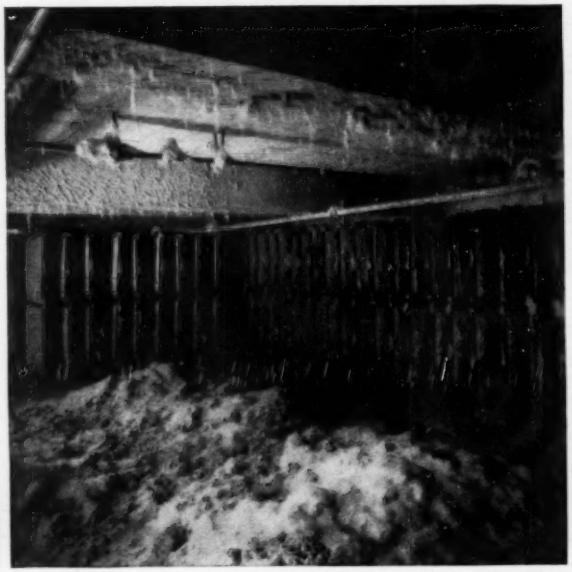


FIBERGLAS IS IN YOUR LIFE . . . FOR GOOD!

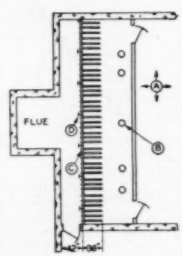
For further information use Helpful Booklet Card—TEXTILE INDUSTRIES • OCTOBER, 1951

LINT ON THE LOOSE

cost this Textile Mill both dollars and goodwill until....



AAF Airmat Lint Arrester installed in dust basement of large textile mill.



PLAN

Ⓐ-THIS DUST BASEMENT SPACE AVAILABLE FOR OTHER USE.
Ⓑ-DUCTS FROM PICKERS, OPENERS, CONDENSERS, ETC.
Ⓒ-NO. 6A OR 8A AIRMAT UNITS
Ⓓ-STIFFENER PLATE INCLUDED TO FACILITATE SUPPORT OF UNITS

AAF solved the problem with the Airmat Lint Arrester

LINT and dust created by picking and opening machines in this southern cotton mill were exhausted into a conventional settling chamber or dust basement. But the finer particles refused to settle down; found their way up the stack and distributed themselves about the area.

Neighbors complained about the unwelcome lint. Plant management bemoaned high heating costs resulting from fact that lint-laden air had to be exhausted outside rather than recirculated.

American Air Filter engineers recommended the installation of Airmat* Lint Arresters using both Airmat paper and glass fibre mats as the filtering element. Dust-laden air passing through these units is now completely cleaned. Neighbors are happy about the absence of lint—management is pleased over tangible savings resulting from recirculation of heated air.

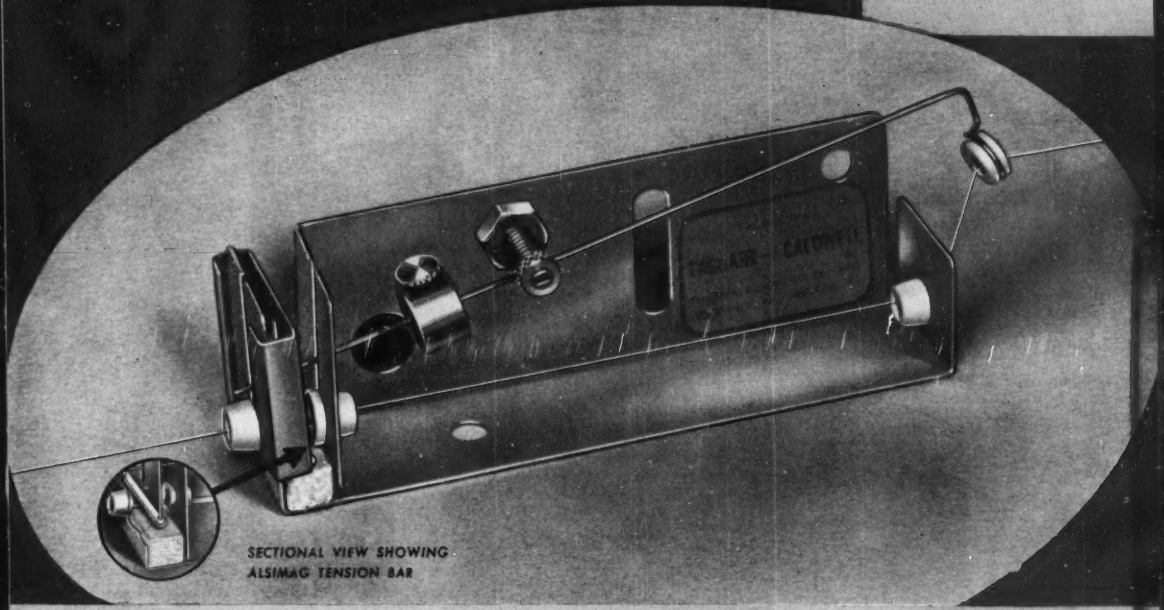
The wise company initiates dust control rather than waiting for the public to legislate it. Practically every industry creates dust somewhere in its operations. Whether it is visible or of a microscopic size not apparent to the naked eye, trouble is in the making if this irritant is not controlled. AAF engineers will be glad to help you analyze your dust problems. For complete information, see you local AAF representative or write direct to:

**Airmat is the trade-mark (Reg. U.S. Pat. Off.) of the American Air Filter Company, Inc., for various air filters, dust collectors and filtering media.*

AAF **American Air Filter**
COMPANY, INC.

275 Central Ave., Louisville 8, Ky. • In Canada: Darling Bros., Ltd., Montreal, P. Q.

AlSiMag



SECTIONAL VIEW SHOWING
ALSIMAG TENSION BAR

Brackets available to mount this tension control on Reading, Wildman, Reiner and Lieberknecht full-fashioned machines.

Photo courtesy Taggart and Caldwell, Sylvania and Montgomery Avenues, Rockledge, Pa., Philadelphia 11, Pa.

AlSiMag custom made thread guides are used throughout the Taggart and Caldwell Yarn Tension Control. AlSiMag guides were selected because of their flawless performance, their extremely long life, and their physical and dimensional uniformity.

. The Taggart and Caldwell Yarn Tension Control is designed for better selvedges, less cut selvedges and press offs, for even lengths, for finer fabric and for the elimination of fish eyes caused by snarls in yarn. A uniform, long wearing guide is essential to the free flow of yarn. AlSiMag guides have also proven to be lowest in cost per pound of yarn processed. AlSiMag guides are so hard that they give extra long life even when running the finest denier abrasive yarns at high speeds.

AlSiMag guides are custom made. Samples from our files sent without charge. Test samples hand made to your specifications at reasonable cost. Perhaps you, too, can profit by guides designed for your specific use. Design collaboration on request.

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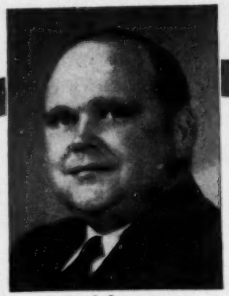

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They get around . . . run into all kinds of carding problems . . . know most of the answers or can get them promptly . . . willingly share their knowledge.

They represent a complete line of the very finest card clothing products. They are more interested in making you a long term customer than in making an immediate sale. Ask one of them to survey your cards and get his suggestions for improvements. There is not the slightest cost or obligation.

HOWARD BROS. MFG. CO. WORCESTER 8, MASSACHUSETTS

Southern Plants: Atlanta, Ga. and Gastonia, N. C. **Branches:** Philadelphia, Pa. and Blanco, Texas

Direct Representation in Canada

A-4

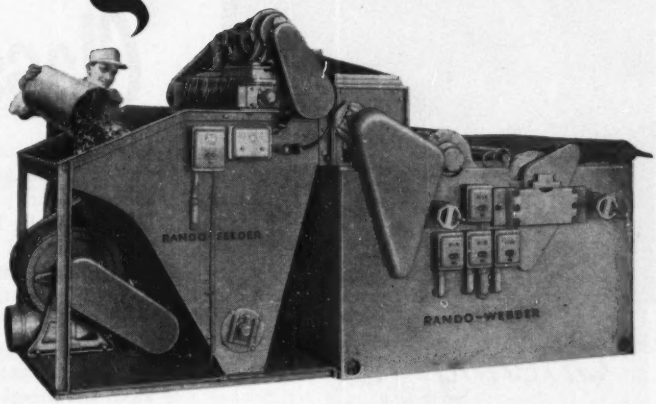
TUFFER CARD CLOTHING — **IMPROVES PRODUCTION ALL ALONG THE LINE**

WASTE?...

Not Necessarily

YOU CAN TURN THESE FIBERS INTO PROFITABLE PRODUCTS WITH

RANDO-FEEDER* AND RANDO-WEBBER*



*T.M. CURLATOR CORP. ROCHESTER, N.Y.

Many new products... *not necessarily textile*... are being developed from random webs produced by the Rando-Feeder and Rando-Webber from waste fibers. Excellent results are *also* being obtained with non-textile waste materials when used in conjunction with textile fibers. Yes, it will pay research and product minded people to look into these new developments. Write today.

TEXTILE DIVISION
CURLATOR
CORPORATION
ROCHESTER 10, NEW YORK

Curlator Corporation, Textile Division
575 Blossom Road, Rochester 10, New York

- ☐ Please schedule a demonstration
- ☐ Please make up samples from my own waste
- ☐ Please send Random Web Bulletin 101

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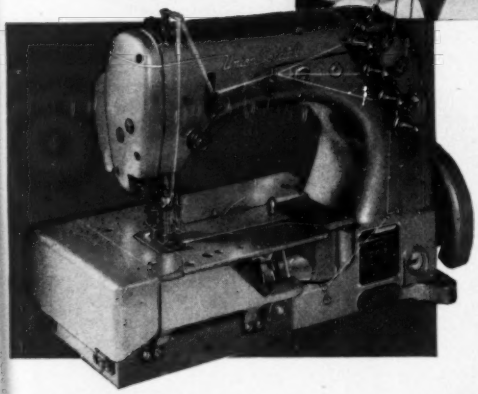
TO HELP YOU Speed Production

ON KNIT GOODS



Class 52800

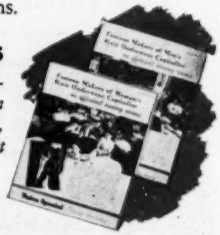
WHEN it comes to multiple needle flat seaming and finishing operations on knitted undergarments, you can't beat Union Special's new improved "Fifty-Two-Eights" for low cost, volume production and fine quality of work produced. Widely used for attaching split tube borders, knitted tubing, collarettes, lace, and flat seaming work, Class 52800 units are typical of the numerous new precision-built machines Union Special offers to help you cut costs and speed production. Take advantage of the service Union Special offers—ask for recommendations.

Offering . . .

- **PRODUCTION PLUS!** Higher operating speeds. Fast starting and stopping.
- **FINEST QUALITY WORK!** Styles available for various operations on a wide range of fabrics.
- **EASY OPERATION!** Smooth, free-running performance reduces operator fatigue.
- **SIMPLIFIED MAINTENANCE!** Completely automatic lubrication. Easy-to-clean streamlined frames. Improved bearings for long life.

HELPFUL BULLETINS

Send for copies of these informative bulletins: No. 254, "Efficient Production of Men's Knit Underwear." No. 255, "Machines for Making Women's Knit Underwear."

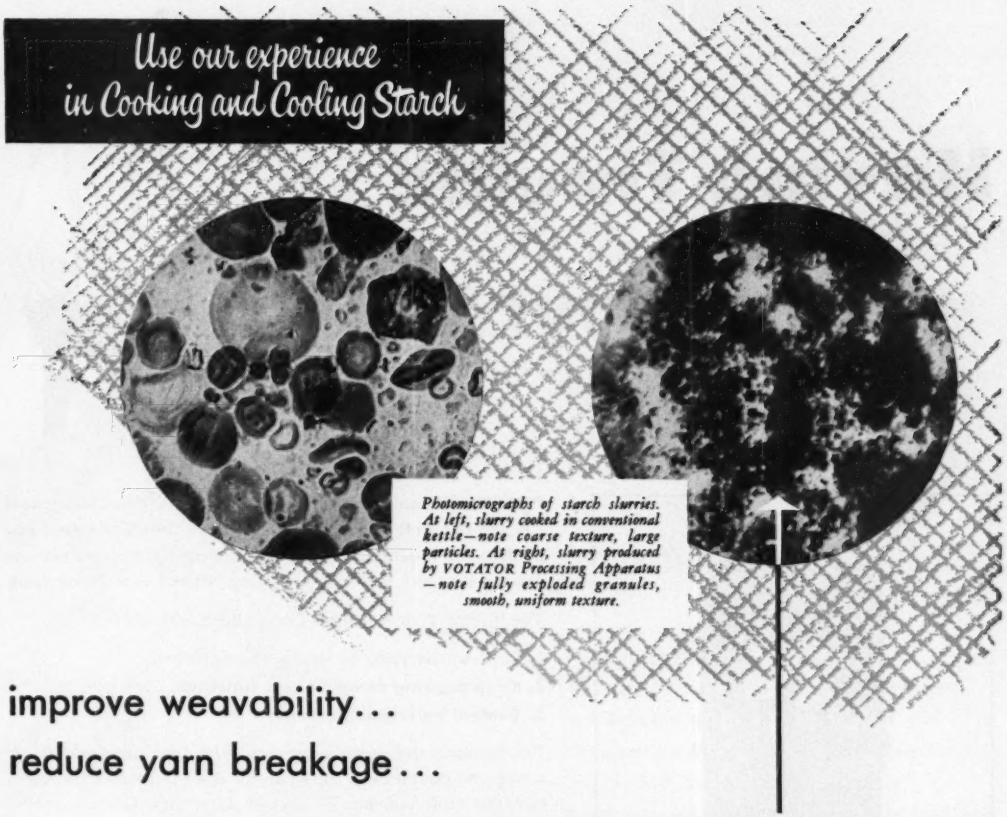


Union Special® MACHINE COMPANY

World's Largest Exclusive Builder of Industrial Sewing Machines

407 NORTH FRANKLIN STREET • CHICAGO 10, ILLINOIS

Use our experience in Cooking and Cooling Starch



Photomicrographs of starch slurries. At left, slurry cooked in conventional kettle—note coarse texture, large particles. At right, slurry produced by VOTATOR Processing Apparatus—note fully exploded granules, smooth, uniform texture.

improve weavability...
reduce yarn breakage...

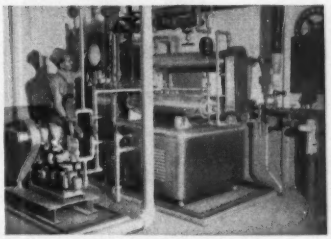
WITH FINER TEXTURE WARP SIZE

A SIZE OF FINER TEXTURE and correct viscosity—as produced by VOTATOR Warp Size Processing Apparatus—penetrates into the warp yarn, lays the fibres smoothly, forms a tough, pliable film. Thus the yarn's resistance to the strain of weaving is increased, breakage and shedding greatly reduced.

In VOTATOR Processing Apparatus, each starch granule is completely exploded and mixed. Size is produced at the exact viscosity desired because precise mechanical control is maintained over all process factors. Less starch is needed, there is less starch for the converter to wash out.

Operation is simple, requires a minimum of labor. Continuous, *fully-enclosed* processing also eliminates spillage and slimy deposits on the floor. And with no open handling, material waste is reduced.

Send the coupon today for complete data on processing finer warp size to help you do a better weaving job. The Girdler Corporation, Votator Division, Louisville 1, Kentucky.



GIRDLER
CORPORATION
Votator Division

VOTATOR T. M. Reg. U. S. Pat. Off.

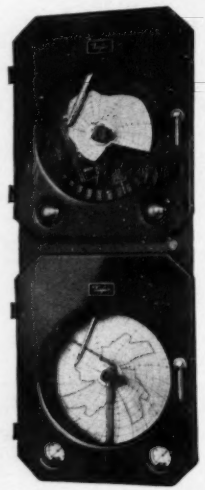
The Girdler Corporation, Votator Division
224 East Broadway, Louisville 1, Kentucky

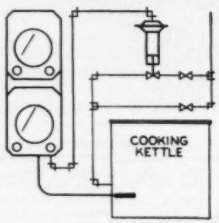
Please send bulletin on the following:

- ☐ Warp Size production with VOTATOR Processing Apparatus.
- ☐ Printing Gum production with VOTATOR Processing Apparatus.
- ☐ Backfill production with VOTATOR Processing Apparatus.

Name .....
Position .....
Company .....
Address .....
City ..... State .....

Having Trouble with your SIZE?





Instruments for indicating, recording and controlling temperature, pressure, flow, liquid level, speed, density, load and humidity.

TAYLOR can't control your waistline, but *Size Cooking Control* is a different story. With Taylor control on your size cooker, you'll get consistently better weaving, because you can depend on every batch of size being cooked exactly the same.

The Taylor Time Schedule Controller (*left*) will:

1. Control the rate of rise in the cooker.
2. Keep cooking temperature constant.
3. Control hold time precisely.

You get more uniformly sized yarn, with a saving of starch and sizing compounds. All the operator does is press a button to start the cook and then the Taylor Time Schedule Controller takes over—automatically controlling the cooking temperature and time according to a predetermined schedule.

Size cooking control is only the first step toward automatic control of the entire slashing operation. Ask your Taylor Field Engineer about automatic control systems for **size cooking, storage kettle temperature control, size box level and temperature control, and slasher cylinder temperature and pressure control.** Or write: Taylor Instrument Companies, Rochester, N. Y., and Toronto, Canada.

Taylor's Centennial
ACCURACY FIRST
SINCE 1851

Taylor Instruments
MEAN
ACCURACY FIRST
IN HOME AND INDUSTRY

Textiles

Key to beauty in American Living

The alluringly beautiful gowns of lovely American women! Draperies that frame windows and doorways with charming elegance! Upholstery that combines distinctive styling with comfort and long service! Rugs and carpets that are luxuriously soft! And in all these, the appealing symphony of tasteful color! Textiles . . . in scores of ways and places, and for everyone in the home, they provide the real measure of enjoyment and utility in American living!

In spinning and weaving, Dayton Rubber Textile Products are of vital importance to the creation of this better way of life. These pages tell briefly how this service to beauty is performed.

Dayton Rubber Company

TEXTILE DIVISION • Woodside Building, Greenville, S. C.

Yarns from the simplest to the most luxurious, are the foundation for all fabrics.

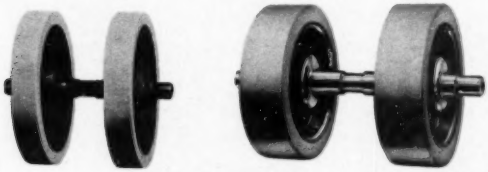
Beauty begins with the spinning of yarn and the spinning of yarn in thousands of textile plants around the world begins with Dayco

Dayco Roll Coverings

Millions and millions of Dayco Cots are now in use in textile mills throughout the world! Constantly improved compounding has produced a roll covering with the highest fiber repellence, longer life, and complete fiber versatility—use it on cotton, wool, blends, synthetics. Fewer lap-ups, fewer ends down, cleaner yarn. Unaffected by humidity or temperature.

Dayco Long Draft Apron

This precision-made apron is completely uniform in thickness, diameter, and width. That's why it yields up to 10% more uniform yarn. Dayton's exclusive method of marking for two-apron systems, gives a perfect fit regardless of age or type of cradle. They last longer—won't curl, split, crack, break, distort, stretch or groove.



Dayco Woolen & Worsted Cots

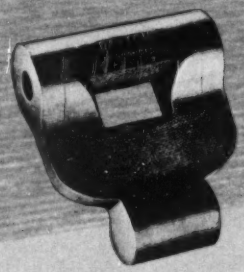
Every year these famous Cots go on to establish new records for service life. Give more uniform yarn, whether wool or any combination of wool, rayon or mohair. Less matching-up required. Years of service with no grooving, deterioration, nor change in friction quality.

DAYTON RUBBER TEXTILE PRODUCTS SERVE BEAUTY

Fabrics

softly silent, elegant in luxury, adorn and serve homes and people of all classes.

Unmatched charm is woven into fabrics on modern high speed looms equipped with these famous Dayton Thorobred textile products



Thorobred Drop-Box Pickers

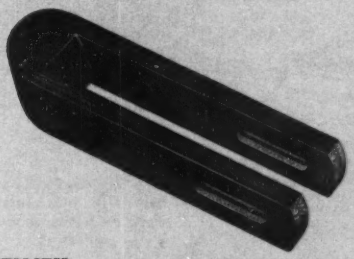
Dayton's Drop-Box Pickers are improved at the three vital points of picker operation—extra-hard at the spindle hole, firm but with "give" around the picker stick hole, soft for shock absorption at the shuttle contact point. All sizes to fit your looms.

Thorobred Loop Pickers

These newly developed pickers will last up to twice as long as old-style pickers. Design features rounded front edges that eliminate hanging filling, narrow back for free non-wear on lay-end strap, and flared bottom that makes picker stick easy to apply. Shuttles run coolor because Thorobred pickers run cooler. For high-speed as well as older type looms.

Thorobred Lug Straps

This is the famous lug strap you've read about—in recent U.S.A. tests with three other types, it outlasted every one! Built-in cushion protects cam points and picker sticks. Unaffected by temperature and humidity changes. Takes millions of picker stick blows without "fatigue" or stretching.



DAYTON RUBBER TEXTILE PRODUCTS SERVE UTILITY

Other Dayco and Thorobred Products for Spinning and Weaving

Dayco Slasher Roll, saves 15 to 30 minutes start-up time, because they require no preliminary preparation.

Dayco Rub Aprons, last longer, unaffected by humidity or temperature. Highest friction co-efficient produces more uniform yarn.

Dayco Condenser Tape, gives better roving, more roving per card. No stretch—holds its tension without frequent take-ups.

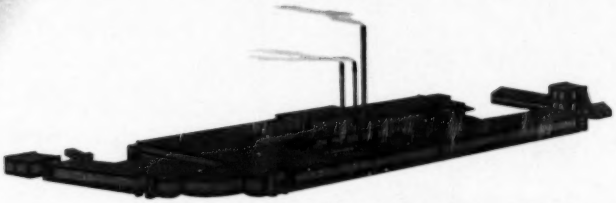
Sweepsticks, with perfect resilience, resist moisture, will not "grow."

Dayco Sponge Cone Pads, prevent ends from catching under base of cone. Their extra resilience protects the yarn.

Hold-up Straps, of the strongest fabric and rubber composition.

Take-up Roll Coverings, high friction and holding qualities.

Home of Dayco and Thorobred Products



Here in the heart of the textile industry, at Waynesville, N. C., Dayton's textile engineers and scientists continually develop and improve new products for better spinning and weaving.

Dayton Rubber Company • Textile Division

Main Sales Office: Woodside Building, Greenville, S. C.

Factories: Dayton, Ohio • Waynesville, N. C.

Textile Products for Better Spinning and Weaving

Dayton Rubber

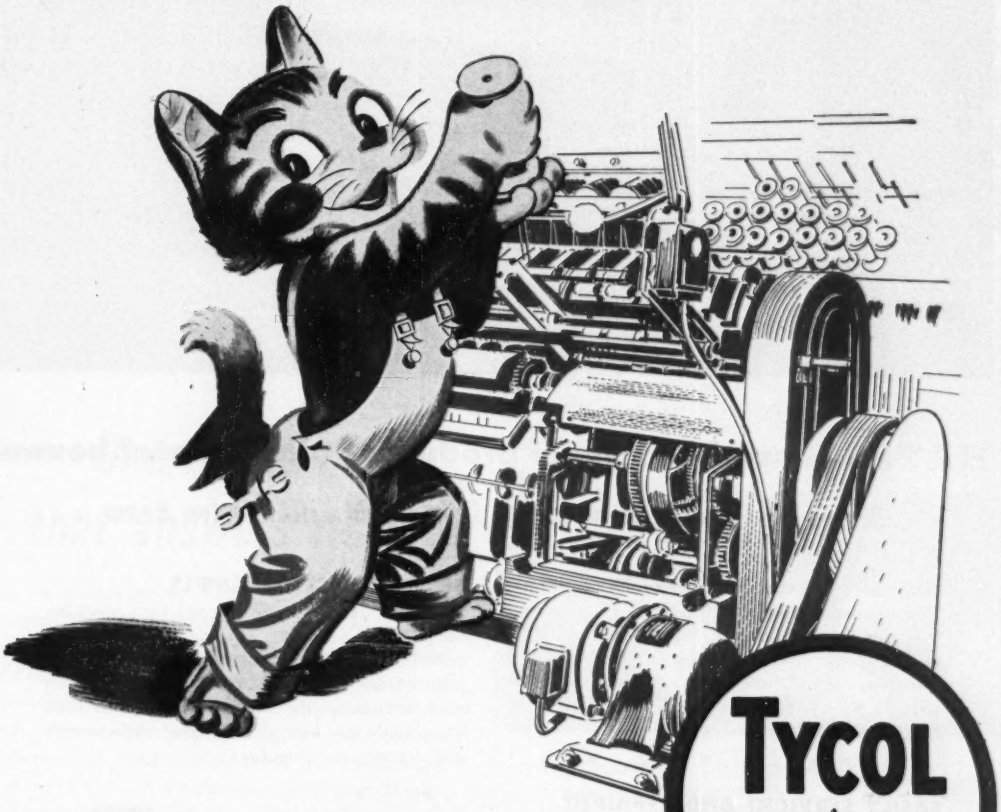
Frog and Loom Bumpers, designed for months of trouble-free and efficient service.

Reversible Picker Bumpers, maximum shock resistance, minimum distortion.

Doll or Tail Pickers, Bobbin Stripper Blades, Jute Loom Pickers, Spindle Rod Bunters and Bumpers.

Temple Rolls, resist abrasion, impervious to oils and chemicals.

"Tycol Alweave cuts power consumption... lessens tube loss... lowers equipment down time"



Check! Tycol Alweave Textile Oils reduce thread breakage —hold spindle drag and bolster losses to a minimum. Their high stability and easy scourability let mills operate at top production speeds, with far fewer stoppages.

Specially designed Tycol Alweave Oils are available in a wide range of both mineral and compounded grades. They'll step up efficiency in every mill process.

Learn more about Tycol Alweave Oils. Get in touch with your nearest Tide Water Associated office today.

TYCOL

INDUSTRIAL LUBRICANTS

Boston • Charlotte, N. C. • Pittsburgh
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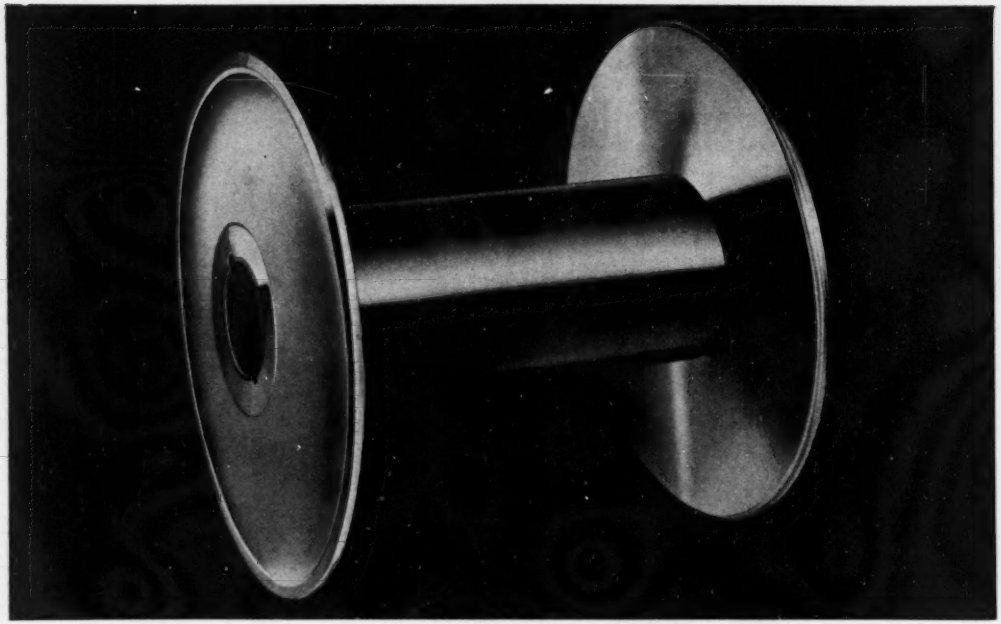
TIDE WATER ASSOCIATED OIL COMPANY
17 BATTERY PLACE · NEW YORK 4, N. Y.

SEND FOR A FREE COPY OF "TIDE WATER ASSOCIATED LUBRICANIA"

For further information use Helpful Booklet Card—TEXTILE INDUSTRIES • OCTOBER, 1951



HAYES ...world's largest producer of light metal beams

Scores again with heavy-duty, light metal Tricot Nylon Beam

With the increasing availability of Nylon, Hayes have developed a light metal, Heavy-Duty Nylon Beam for Tricot knitting machines. Although light in weight, the new design with the High Quality aluminum alloys employed, provides unusual strength, for the heavier pressures associated with Nylon.

EASILY SERVICED AND REPAIRED

The new Threaded Type Nylon Beams are easily serviced and repaired. Shaft bearings and keyways are reinforced and protected by malleable iron inserts. With reasonable care the better, stronger aluminum alloy used, insures you long life under heavy duty and long continued use.

HELPS TO CUT YOUR COSTS

Hayes Aluminum Nylon Beams are expertly finished, smooth and snag free, reducing your waste, and assuring you increased production. Because they require practically no servicing or maintenance, these precision made Beams help to cut your costs and produce better cloth.

DEMAND EXCEEDS SUPPLY

Thousands of Beams are shipped each year, but demand far exceeds the supply. In fact, to make delivery of some items, more than six months are required, and in fairness to our customers, orders must be filled in the sequence they are received. We will do our best to fulfill your requirements and welcome your inquiries.

Catalog of our material and brochure covering our manufacturing facilities furnished on request.

HAYES

INDUSTRIES, INC.

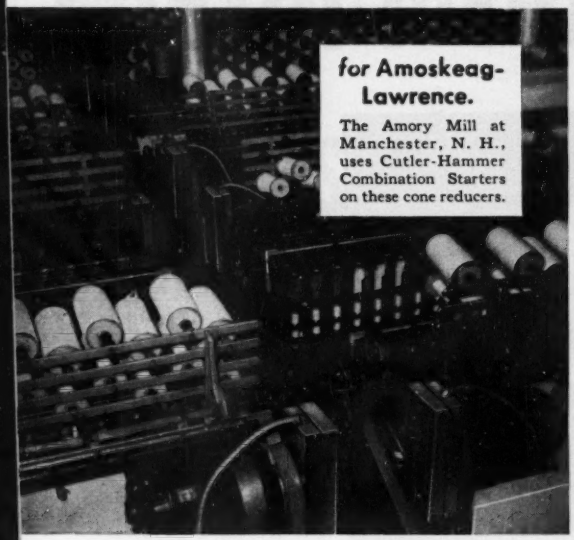
HOME OFFICE: Jackson, Michigan

EASTERN REPRESENTATIVE
J. Paul Laird
Philadelphia, Penn.

SOUTHERN REPRESENTATIVE
R. E. L. Holt Jr. & Assoc.
Greensboro, N. C.

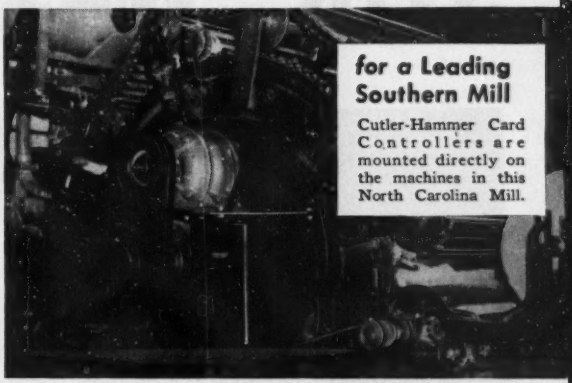
CUTLER-HAMMER

MOTOR CONTROL FOR THE TEXTILE INDUSTRY



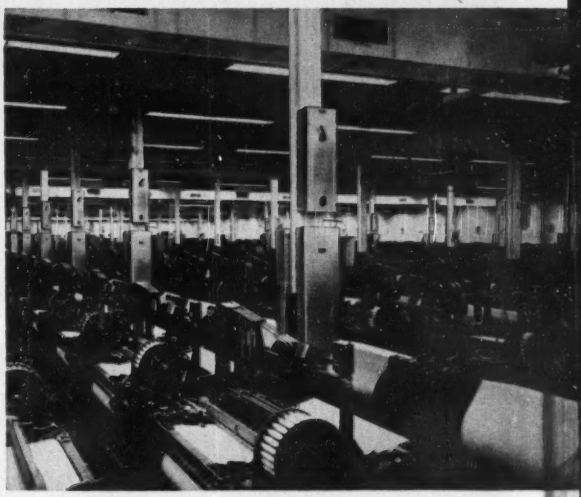
for Amoskeag-Lawrence.

The Amory Mill at Manchester, N. H., uses Cutler-Hammer Combination Starters on these cone reducers.



for a Leading Southern Mill

Cutler-Hammer Card Controllers are mounted directly on the machines in this North Carolina Mill.



One question that answers itself

No responsible textile mill executive will decide the question "*What* motor control?" except in the light of *one fact*. And that is the fact that *profitable* textile production results from the integration of many machines into a single harmonious production unit. The need for such integration spells out the answer to the question right there. For this integration certainly calls for the *best* motor control engineering experience available . . . certainly calls for the *most competent* motor control design and construction available . . . certainly calls for a *proved dependability* in motor control performance. There is only one make of motor control that meets all these specifications, the product of the pioneering specialists in motor control since 1892. CUTLER-HAMMER, Inc., 1456 St. Paul Avenue, Milwaukee 1, Wisconsin.

CUTLER·HAMMER
MOTOR CONTROL
C·H

for Springs Cotton Mills

at Kershaw, S. C., plant. Cutler-Hammer Loom Switches for each group of 10 looms are here mounted in single enclosures on adjacent building columns above mill traffic. Note also single combination starter installed ahead of each group.

CUTLER-HAMMER LOOM SWITCH

for fewer shutdowns, greater production, easier maintenance

Pushbuttonoperation—most preferred for this type of starter. Stop button can be padlocked.

Stronger, smaller, drawn steel case. Unique welded-steel mounting pedestal available to create a *complete* assembly with unparalleled resistance to mechanical damage.

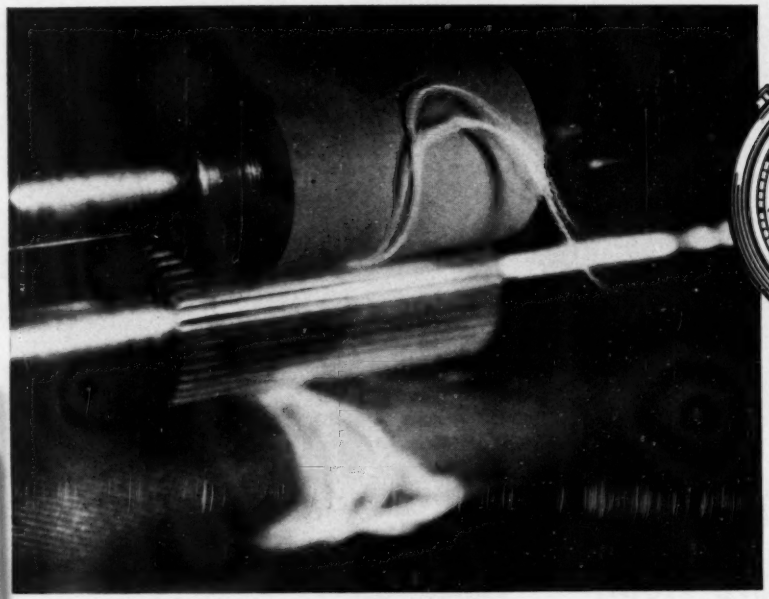
Lint-proof enclosure—close fitting cover (even around pushbutton well) limits entrance of lint and dust.

Service proven, positive make, quick break operating mechanism built on *steel* framework.

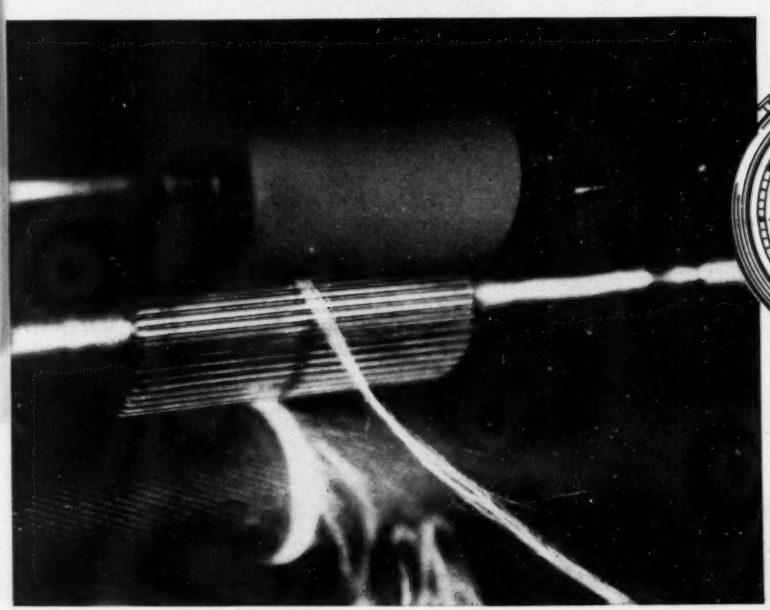
"Out in the open" contacts for quicker inspection and easy renewal *on the job*. Most dependable overload protection—famous Cutler-Hammer eutectic element type—prevents unnecessary shutdowns without sacrifice of *positive* motor protection.

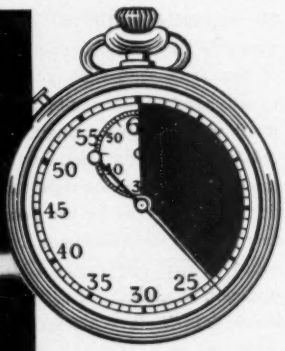
Vibration resistant. Mechanism "floats" in truly effective *live* rubber mounting bushings.

STOP WATCH PROVES



When an end breaks, will the cover let the yarn run free *long enough* for it to go down on the scavenger roll? Tests in Armstrong's Laboratories, confirmed by mill experience, show that many covers will not. Many covers lap up within the first split second after an end breaks and before the yarn can get to the scavenger roll.





The longest time any cover lets the yarn run free is consistently recorded by Armstrong's Accotex® Cots. In thousands of tests, they let the yarn run free long enough for it to go down on the scavenger roll . . . in many cases it runs free indefinitely. Diagrams and pictures at right on the opposite page show why.

which roll cover is most lap resistant

THE one critical question in determining the lap resistance of any roll cover is this: Will the cover consistently let a broken end run free long enough for it to go down on the scavenger roll?

Research workers in Armstrong's Laboratories have developed a way to find this out quickly. Their accelerated test shows in minutes what it would take months to learn in the mill . . . and experience has proved that cots that perform well on this test perform equally well in the mill.

Here's how the test works. First, Armstrong's textile men put the cot to be tested on a frame section from which the scavenger roll and clearer board have been removed. Next, they toughen the test by speeding up the frame many times faster than normal. Then they break an end and measure with a stop watch how long the cot will let the end run free. The longer the end runs free, clearly the better chance it would have in the mill of going down to the scavenger roll. The longer the end runs free, therefore, the better the lap resistance of the roll covering under test.

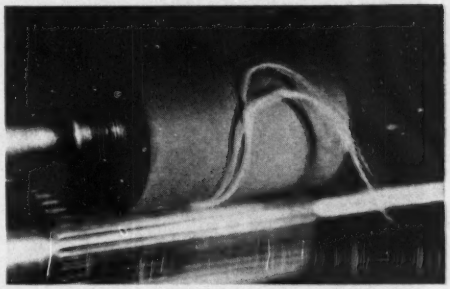
In thousands of such tests against the stop watch, Armstrong's Accotex Covers consistently prove to have more lap resistance than any other cover tested.

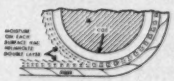
Why? Because Accotex Covers are made with an exclusive patented formula. Each Accotex Cover contains "electrolytes" . . . special ingredients that eliminate one of the principal causes of lapping . . . the natural attraction between fiber and cot.

Whether you spin wool, cotton, synthetics, or blends, you can get an Accotex Cover designed for your needs, for Armstrong offers you a full line of these patented covers.

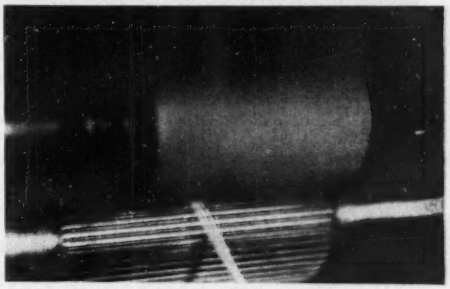
Ask your Armstrong representative to suggest the right cover for your work. Call him today or write Armstrong Cork Company, Textile Products Dept., 3610 Arch Street, Lancaster, Pa. Available for export.

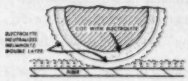
Here's the scientific reason why





THIS COT LAPS: Moisture layers on fiber and cot contain electric charges that attract fiber to cot. When pressed together, the two moisture layers have the effect of adhering fibers to cot, causing them to lap up.

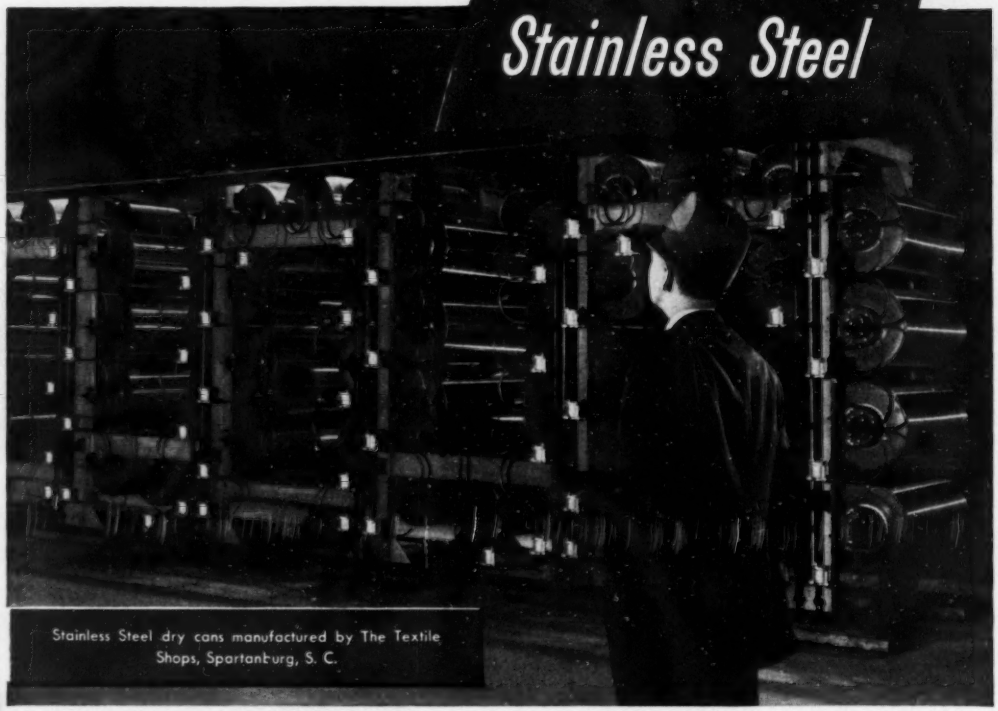




THIS COT RESISTS LAPPING: Certain electrolytes put in patented Accotex Covers neutralize electric charges in moisture layer on cot. This cancels out the basic attraction of fiber to cot.

ARMSTRONG'S ACCOTEX COTS

Made to last —they're Stainless Steel



Stainless Steel dry cans manufactured by The Textile Shops, Spartanburg, S. C.

HOW MANY TIMES in recent months have you stopped in front of a vital piece of mill equipment and said to yourself, "I'm glad it's Stainless Steel."

If you are one of the hundreds of operators who have taken full advantage of the benefits of Stainless Steel, you are well equipped for the uncertain days ahead.

Stainless Steel's exceptional corrosion resistance makes it the ideal material for jobs where not the slightest amount of rust can be tolerated. Its smooth surface is hard, dense and easy to clean. "Down-time" for cleaning is reduced by use of Stainless Steel since its surface remains unaffected by dye pigments, or finishing agents. And today, with equipment replacements so difficult (and sometimes even impossible), you'll appreciate more than ever the long service life that Stainless Steel assures.

Include Stainless Steel equipment in your plans for the future. By using U·S·S Stainless Steel wherever and whenever possible, you make sure you get a perfected, service-tested material that has proved unsurpassed for keeping equipment on the job.

AMERICAN STEEL & WIRE COMPANY, CLEVELAND · COLUMBIA STEEL COMPANY, SAN FRANCISCO
NATIONAL TUBE COMPANY, PITTSBURGH · TENNESSEE COAL, IRON & RAILROAD COMPANY, BIRMINGHAM · UNITED STATES STEEL COMPANY, PITTSBURGH
UNITED STATES STEEL SUPPLY COMPANY, WAREHOUSE DISTRIBUTORS, COAST-TO-COAST · UNITED STATES STEEL EXPORT COMPANY, NEW YORK

USS

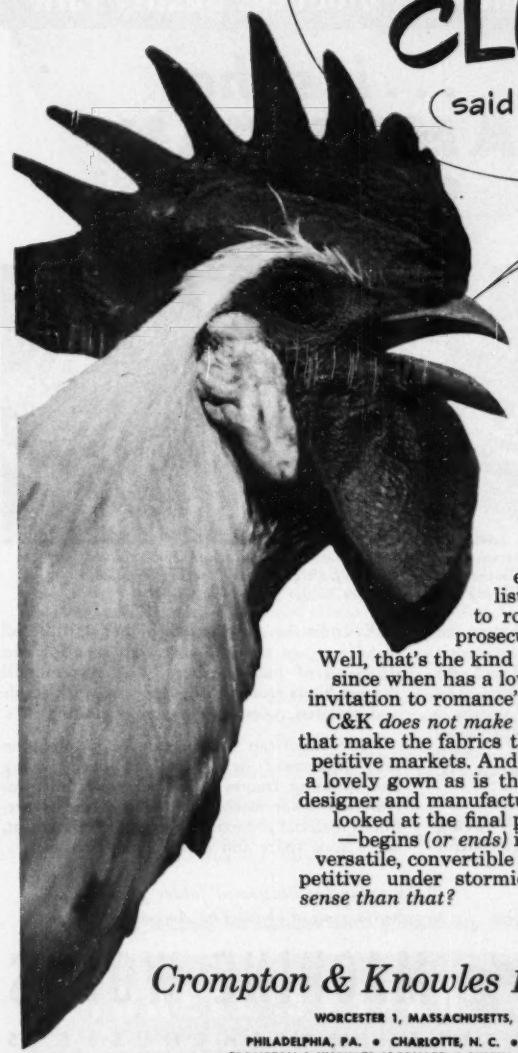
U·S·S STAINLESS STEEL

SHEETS · STRIP · PLATES · BARS · BILLETS · PIPE · TUBES · WIRE · SPECIAL SECTIONS

UNITED STATES STEEL

You're a Bunch of ROMANTIC CLUCKS!

(said the Banker)



"What's the idea of talking like a bunch of dressmakers at a hen-party—when you're machinery men? You'd think you *made* the clothes, to listen to your ads: 'Sheerest moon mist . . . invitation to romance.' What kind of talk is *that?*" (Here the prosecution rested.)

Well, that's the kind of talk that sells clothes to women, nowadays. For since when has a lovely evening gown *not* been "moon mist . . . and an invitation to romance"? But let's be plain and specific:

C&K *does not make* clothes, nor fabrics. But C&K *does make* the looms that make the fabrics that make the merchandising magic in today's competitive markets. And C&K is just as proud of the commercial success of a lovely gown as is the mill that wove the fabric . . . just as proud as the designer and manufacturer who put the stars in the eyes of the women who looked at the final perfection. For beauty—like competition and profits—begins *(or ends)* in the weaveroom. And weaverooms equipped with versatile, convertible C&K Call Box Looms will remain successfully competitive under stormiest conditions. *What could make better business sense than that?*

Crompton & Knowles LOOM WORKS

WORCESTER 1, MASSACHUSETTS, U. S. A.

PHILADELPHIA, PA. • CHARLOTTE, N. C. • ALLENTOWN, PA.
CROMPTON & KNOWLES JACQUARD & SUPPLY CO., PAWTUCKET, R. I.

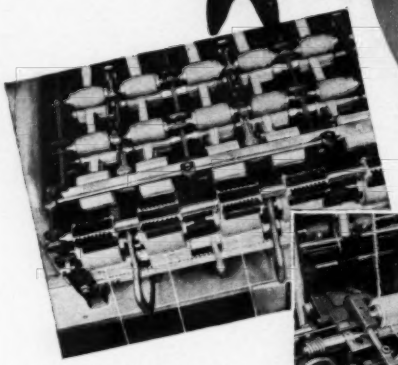
This "Invisible Trademark" Stands Back of the Trademarks of the World's Finest Woven Fabrics

It processes worsted, worsted and synthetic blends

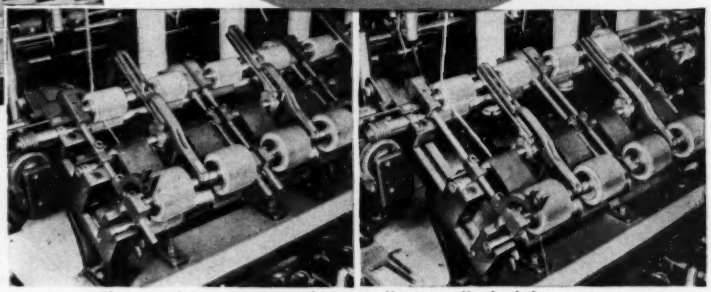
It reduces the number of processes required

It saves money . . . produces quality yarn

. . . it's the AMERICAN SYSTEM



Close-up of Super-Draft Roving frame showing bottom rolls, top rolls, back bars, aprons, cradles, etc., as assembled for operation on the American System.



Close-up of Spinning frame bottom rolls, top rolls, back bars, aprons, cradles, etc., showing rolls set to (left) close setting for shorter staple lengths and (right) open setting for longer staple lengths.

The Whitin-developed American System for processing worsted, and worsted and synthetic blends is a highly flexible, economical and efficient system for processing quality yarns. The outstanding characteristic of this new system is the sharp reduction in the number of processes required — sometimes as much as 50% — with a consequent reduction in the number of machines needed.

Specially designed aprons for both roving and spinning assure more accurate fiber control and permit the use of much higher drafts. Roll stand settings are also increased to allow the drafting of longer fibers. The system will process fibers from 1½ inch up to 7 inch staple and worsted counts up to and including 40's.

The American System can be supplied on new equipment or applied to both roving and spinning frames as a changeover on most American-made machines. In either case, it permits a material reduction in machine investment, saves floor space and cuts operating costs.

Write today for illustrated folder giving additional information about The American System.

Whitin MACHINE WORKS

WHITINSVILLE, MASSACHUSETTS

CHARLOTTE, N. C. • ATLANTA, GA. • SPARTANBURG, S. C. • DEXTER, ME.

MECHANIZE 4 Scrubbing Operations into 1

with a COMBINATION SCRUBBER-VAC!

Here's a timely answer to the need for conserving manpower and reducing labor costs—*a single cleaning unit that completely mechanizes scrubbing.* A *Combination Scrubber-Vac* applies the cleanser, scrubs, rinses if required, and picks up (damp-dries the floor)—*all in one operation!* Maintenance men like this *four-in-one feature;* also the fact that the machine is *self-propelled* . . . has a *positive* clutch . . . new type of water valve that *assures* uniform flow of water . . . and powerful (quiet) vac for efficient pick-up.

The *Scrubber-Vac* shown at right, *Model 213P,* is designed for heavy duty scrubbing of large-area floors. This machine has a 26-inch brush spread, and cleans up to 8,750 sq. ft. per hour! (Powder dispenser is optional.) *Finnell* makes *Scrubber-Vac Machines* in a full range of sizes—for small, vast, and intermediate operations. From this complete line, you can choose the size that's exactly right for *your* job (no need to *over-buy* or *under-buy*). It's also good to know that you can lease or purchase a *Scrubber-Vac,* and that *there's a Finnell man nearby* to help train your maintenance operators in the proper use of the machine and to make periodic check-ups.

For demonstration, consultation, or literature, phone or write nearest *Finnell Branch* or Finnell System, Inc., 1310 East Street, Elkhart, Indiana. Branch Offices in all principal cities of the United States and Canada.

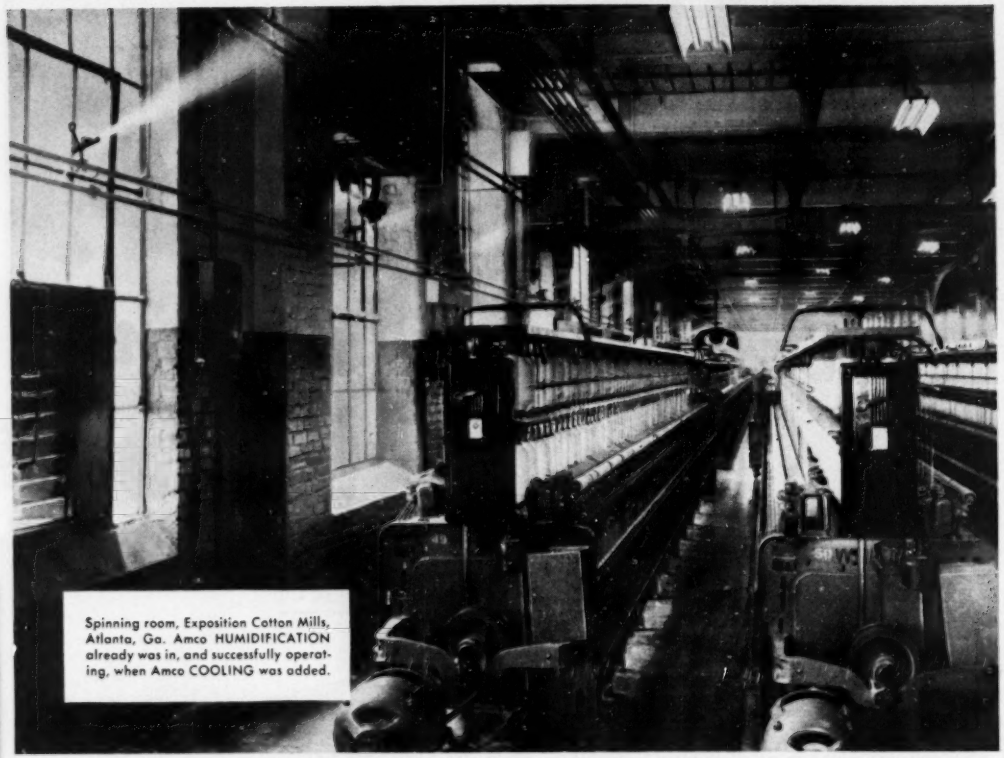
Conserve Manpower with Completely Mechanized Scrubbing

FINNELL SYSTEM, INC.

Originators of Power Scrubbing and Polishing Machines

Everything for Floor Care FINNELL

BRANCHES IN ALL PRINCIPAL CITIES



Spinning room, Exposition Cotton Mills, Atlanta, Ga. Amco HUMIDIFICATION already was in, and successfully operating, when Amco COOLING was added.

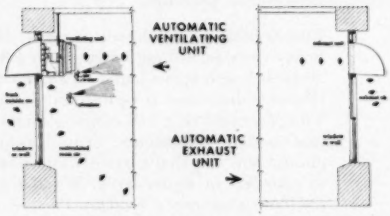
A YARN WORTH SPINNING

Here's a modern "*see*" story — with important advantages for you in better quality, increased output, reduced waste.

You can *see for yourself* the advantages of Amco humidification . . . in correct regain, even yarn counts, reduced waste, improved output and quality, greater worker comfort and efficiency.

But do you know how easily you can add COOLING to humidification, with a ductless system? You discard nothing and make only a modest addition to your present humidification system. Add evaporative cooling room by room as you need it. Modify it any time it is convenient.

The cooling effect of evaporating twelve pounds of water per hour is equivalent to one ton of refrigeration. That's the measured result of evaporative cooling in one hour in a given area. For example, in cotton weaving at 80% relative humidity an Amco ductless evaporative cooling system can economically produce an indoor temperature approximately 7 degrees above the outside wet bulb temperature.



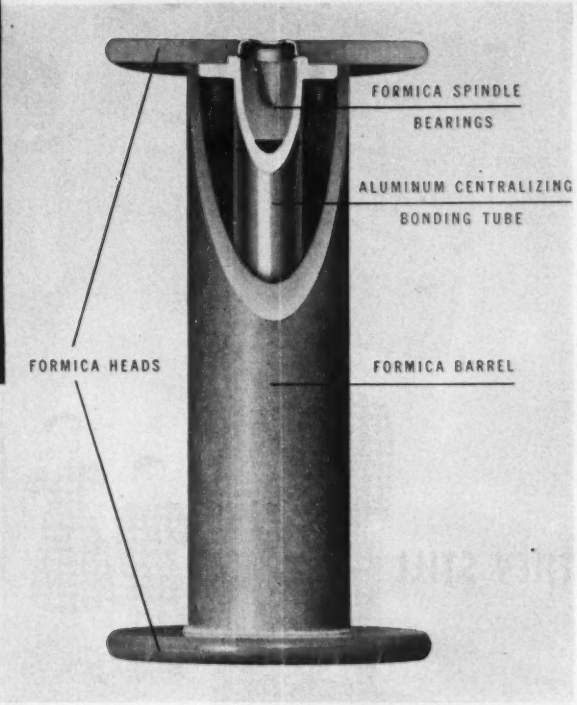
Ventilating units draw in a controlled amount of fresh air, additional atomizers provide extra evaporation for absorbing excess heat. Controlled vents exhaust spent air and heat. Automatic temperature controls cover winter and summer conditions. Atomizers are self-cleaning. Controls are extremely responsive.

Amco offers both ductless and duct systems of humidification and cooling. An Amco engineer will give you unbiased advice on the system best suited to your requirements.

AMCO HUMIDIFICATION and COOLING

AMERICAN MOISTENING COMPANY, AFFILIATED WITH GRINNELL CO., INC., PROVIDENCE, R. I. • BOSTON • ATLANTA • CHARLOTTE

Only FORMICA GYRO-TEX BOBBINS give you ALL these advantages . . . .



1. Designed on the assembled unit principle.
2. Heads, barrel and spindle bearings are each made of different grade of Formica . . . a specially engineered grade giving the right combination of properties for each part.
3. Each Formica part performs its own function independently of the others.
4. Heads will withstand tensile pull of 4,000 psi and are guaranteed not to pull away from the barrel.
5. Heads can be replaced without disturbing the alignment of the barrel bore.
6. Pressure of synthetic yarns on barrel cannot affect spindle bearings, thanks to the aluminum centralizing-bonding tube.
7. Formica is perfectly stabilized because it is given a special stress-relieving draw – so there's no 'walking' or distortion of any kind even under the most difficult operating conditions.
8. Perfect balance for speeds up to 20,000 rpm . . . because Formica Gyro-Tex Bobbins are "engineered from the hole outwards."
9. Smooth, snag-proof Formica surface protects delicate yarns.
10. Ideal for processing all man-made textile yarns.

Mills that need the best,

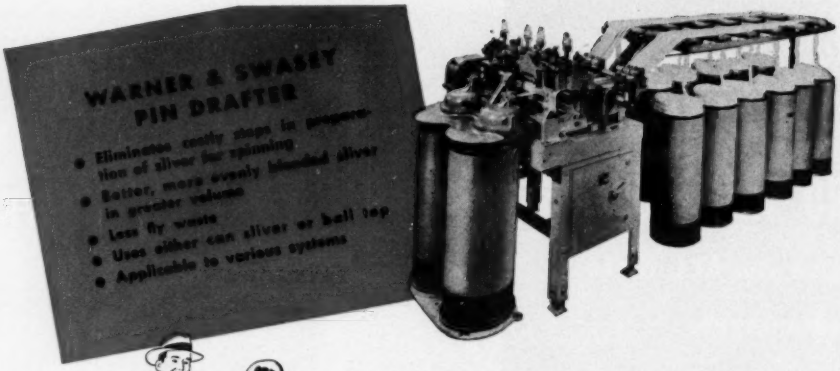
buy FORMICA GYRO-TEX

Designed and engineered by a textile expert . . . and manufactured by Formica . . . Gyro-Tex is fast becoming the leading bobbin among mills that must have the finest, most reliable and longest wearing bobbin available. The Formica Gyro-Tex Bobbin costs much less than you'd expect for such high quality . . . and actually is a perfect example of how the best is less expensive in the long run.

For complete information on the Formica Gyro-Tex Bobbin – and Formica sheets, tubes and rods for the textile industry – send today for your copy of new textile bulletin.

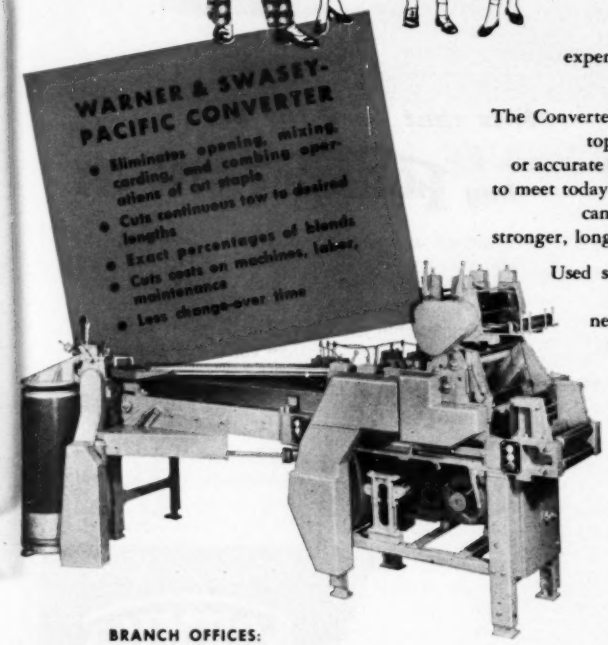
THE FORMICA COMPANY, 4694 SPRING GROVE AVE., CINCINNATI 32, OHIO

Productive FORMICA at Work in Industry


WARNER & SWASEY
PIN DRAFTER
• Eliminates costly steps in preparation of sliver for spinning
• Better, more evenly blended sliver in greater volume
• Less fly waste
• Uses either can sliver or ball top
• Applicable to various systems

Wool or no wool...

THEY STILL NEED QUALITY CLOTHING!


WARNER & SWASEY-
PACIFIC CONVERTER
• Eliminates opening, mixing, carding, and combing operations of cut staple
• Cuts continuous tow to desired lengths
• Exact percentages of blends
• Cuts costs on machines, labor, maintenance
• Less change-over time

● Suitable replacement fabrics for scarce, expensive wool *must* be found to clothe this family —at a price they can afford!

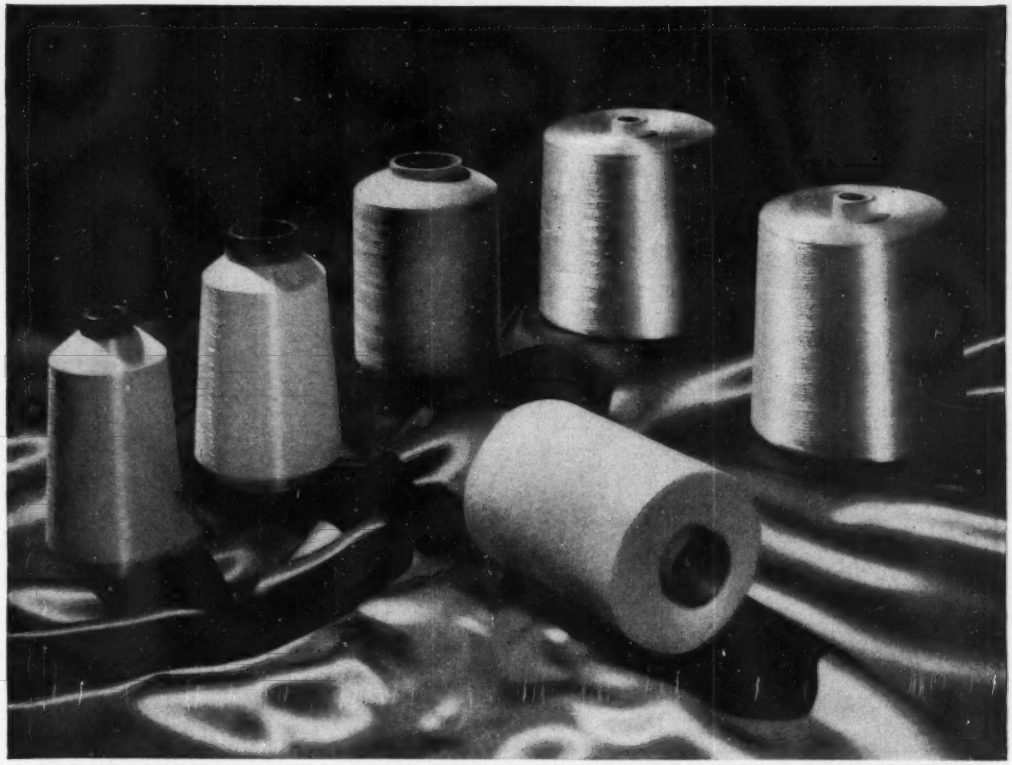
The Converter and Pin Drafter help meet this demand for top quality fabrics by supplying synthetic sliver or accurate blends of wool and synthetic sliver—in volumes to meet today's huge requirements. A wide variety of fabrics can be made from these blends—materials that are stronger, longer lasting, shrink resistant, and less expensive.

Used separately, or in combination, these machines cut costs by eliminating many operations necessary in conventional systems of preparing sliver for spinning. Call in our Field Engineer in your territory for complete details—he'll be glad to show you how they can add new profits to *your* operation.

BRANCH OFFICES:
Rivulet Mill, Uxbridge, Mass.
6910 Market Street, Philadelphia, Pa.
Candler Building, Atlanta, Ga.

TEXTILE MACHINERY DIVISION

YOU CAN PRODUCE IT BETTER, FASTER, FOR LESS . . . WITH A WARNER & SWASEY



Fact, Forecast and an Invitation

regarding the yarns of the future

Today, more than 90% of all coned synthetic yarn is wound on Universal precision winders.

Tomorrow, yarns now in the experimental stage will be packaged on Universal machines created or adapted for their special characteristics.

If *your* responsibilities are related to the developing of the "yarn of the future", you will find it helpful, at an early stage, to discuss your winding and twisting problems with our engineers.

Perhaps we can help you build into your system a means of direct packaging . . . perhaps you will need to prepare the yarn in some special way for subsequent processing . . . more than likely, machines which we are developing now will be the answer to the problem of handling your "yarn of the future".

You'll find Universal engineers available, resourceful and cooperative.

UNIVERSAL WINDING COMPANY

LECSONA

Box 1605, Providence 1, R. I.

Agents in every principal textile center throughout the world

23.1.10

DRYING PROBLEMS?

JUST WRAP 'EM UP AND SEND 'EM TO US!

TEXTILES All Fibres
RUBBER
CHEMICALS
SOAP
PLASTICS
FOOD Including Cereals and Fruits
WOOD PRODUCTS
BUILDING MATERIALS
PAPER PRODUCTS Including Clay Fillers

Part of SARGENT's Research Laboratory, Specifically designed to help solve drying problems for Industry.

IN THE **SARGENT** RESEARCH LABORATORY any-mill condition and any stock condition can be duplicated, to determine:

1. The one best, exact, commercially practical method of drying your product.
2. How to attain highest production rate in pounds of stock per hour per square foot of drying area, economically.
3. Air flow data
4. Required temperatures
5. Required heating surface
6. Dryer length and design
7. Apron or roller (feeding) speed
8. Exact development of drying curves required.
9. Possible simple changes in stock preparation prior to drying, to attain maximum quality and efficiency.
10. Controls required to maintain quality and quantity drying in uniform, continuous production.

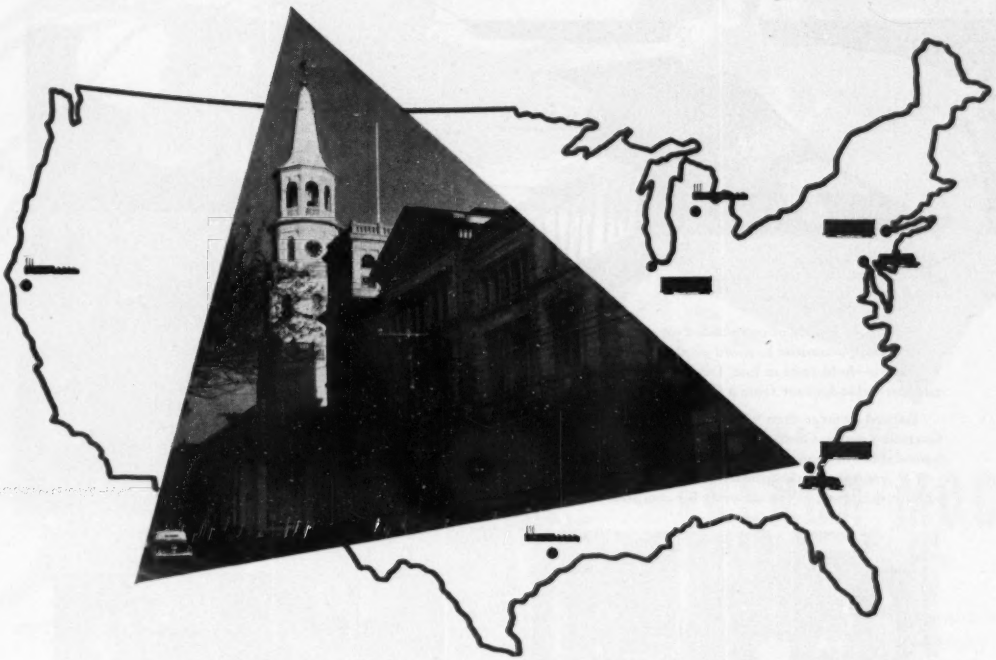
CONSULT THE EXPERTS

C. G. SARGENT'S SONS Drying Research Laboratory for Industry is staffed by men who KNOW their jobs. They have the mental curiosity of the true scientist combined with the dollars and cents, how-can-it-be-done-to-keep-quality-up-and-cost-down outlook of experienced mill men. Here is an invaluable source of experience and knowledge, to serve you and your industry. Wherever a drying process occurs, from food to plastic, textiles to rubber, paper to paint, SARGENT'S Drying Research Laboratory is highly qualified to serve, advise, recommend, and design special drying equipment.

Bring us your drying problems — the more difficult they are, the better we like them!

C. G. SARGENT'S SONS CORP.
Graniteville, Massachusetts
SINCE 1852

how close are you to *Charleston, South Carolina?*



Charleston is a main distribution center for Dow Caustic Soda!

For dependable caustic soda delivery . . . look to Dow for superior service! Dow distributes Caustic Soda Solution from bulk tank terminals in Charleston, South Carolina and Carteret, New Jersey. Caustic Soda Solid, Flake and Ground Flake are shipped from terminals in Charleston, South Carolina, Chicago, Illinois, and Port Newark, New Jersey. By ship, rail and barge Dow Caustic Soda production is shipped into these terminals from three large plants—in Michigan, Texas and California. For constant supply of your caustic needs . . . use Dow's convenient distribution facilities today!

wherever you are . . . *you're close to*

DOW CAUSTIC SODA

THE DOW CHEMICAL COMPANY • MIDLAND, MICHIGAN

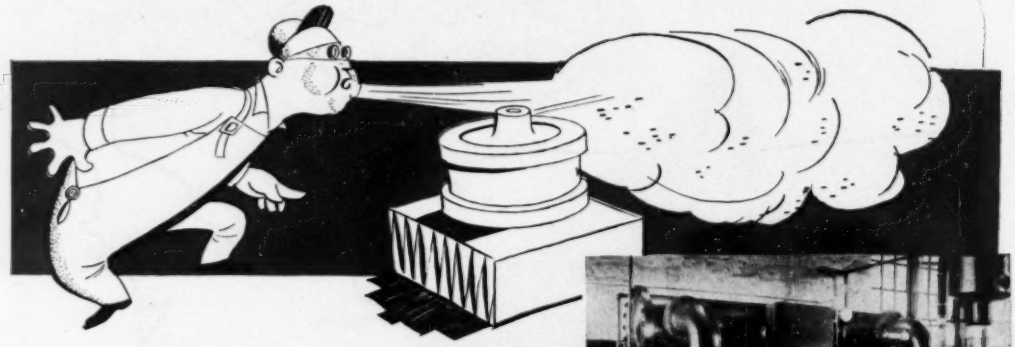
New York • Boston • Philadelphia • Washington • Atlanta • Cleveland
Detroit • Chicago • St. Louis • Houston • San Francisco • Los Angeles • Seattle
Dow Chemical of Canada, Limited, Toronto 1, Canada

DOW

CHEMICALS

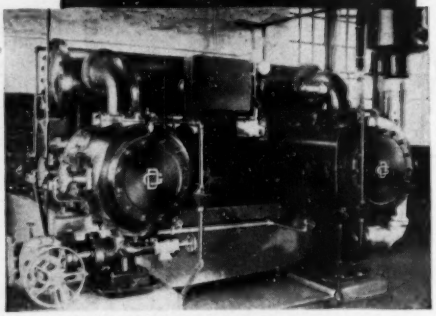
INDISPENSABLE TO INDUSTRY AND AGRICULTURE

You don't have to skimp on compressed air!

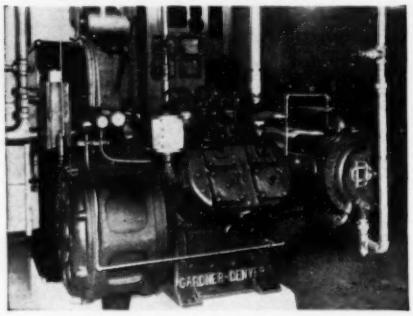


An ample supply of compressed air arms you with many opportunities to speed production—conserve man-hours—hold costs in line. Especially when it's the lower-cost-per-cubic-foot air from a Gardner-Denver Compressor.

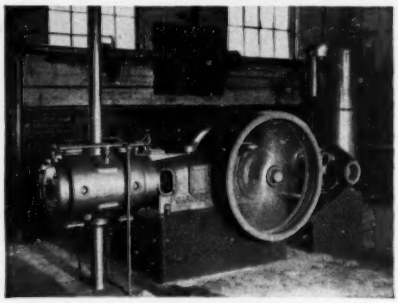
Backed by more than 90 years of quality manufacturing, Gardner-Denver Compressors handle constant peak loads—dependably . . . keep maintenance and operating costs so low you can use compressed air throughout your plant—without skimping. Write us today for complete information.



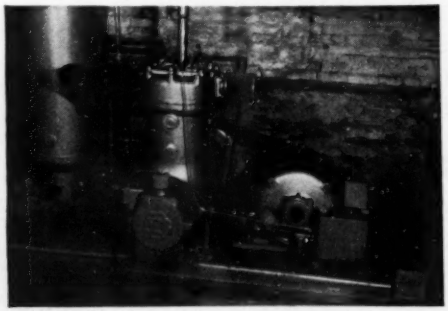
HA Two-Stage, Horizontal Compressor 593 to 1854 cu. ft. displacement per min.



WB Two-Stage, Vertical Compressor 142 to 686 cu. ft. displacement per min.



RX Single-Stage, Horizontal Compressor 89 to 1292 cu. ft. displacement per min.



AA Single-Stage, Vertical Compressor 32 to 183.6 cu. ft. displacement per min.

SINCE 1859

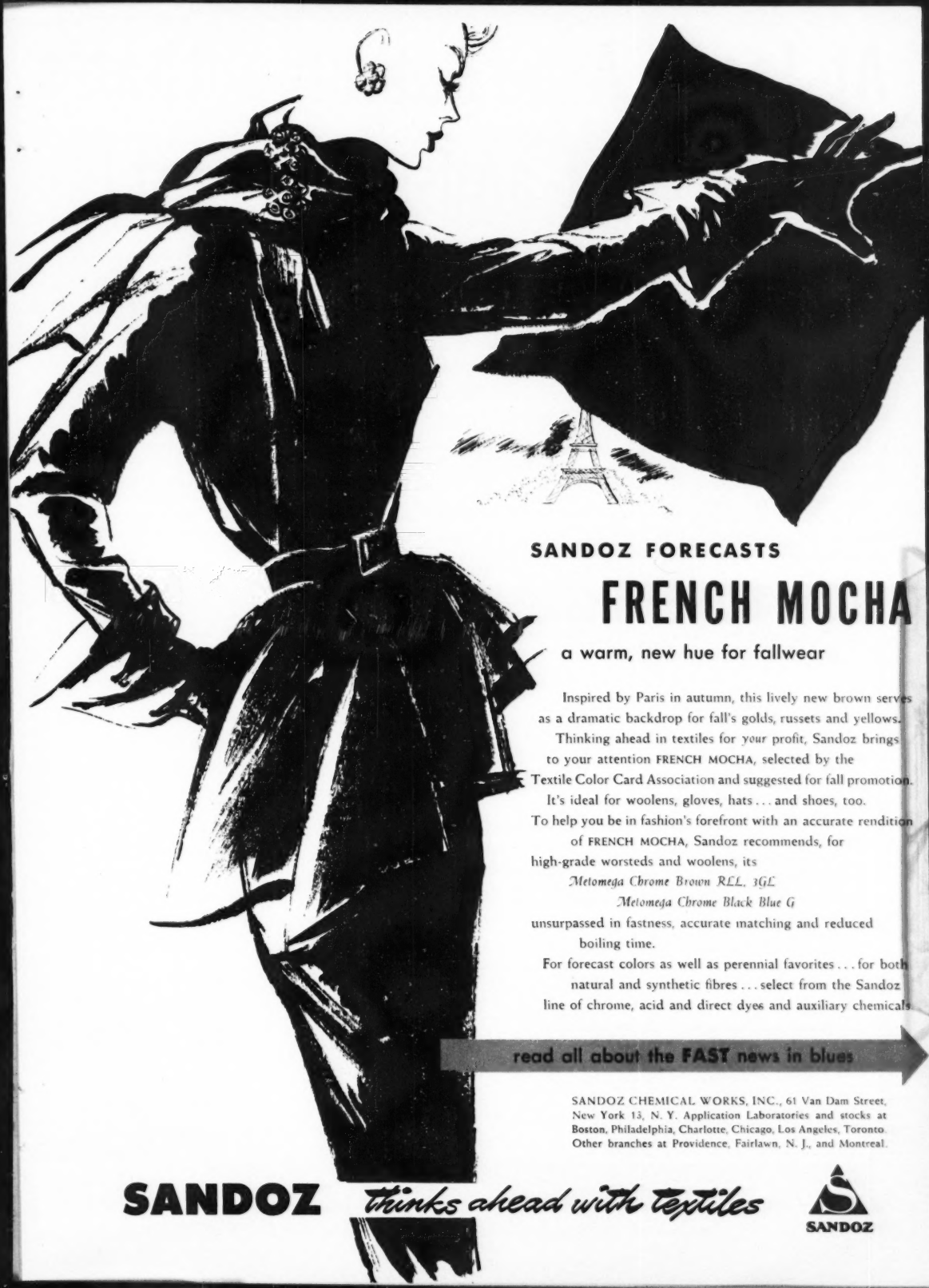
GARDNER-DENVER

Gardner-Denver Company, Quincy, Illinois

In Canada:
Gardner-Denver Company (Canada), Ltd., Toronto, Ontario

THE QUALITY LEADER IN COMPRESSORS, PUMPS AND ROCK DRILLS

Atlanta, Ga. • Birmingham, Ala. • Knoxville, Tenn.
Washington, D. C. • New York, N. Y. • Philadelphia, Pa.
Pittsburgh, Pa. • New Orleans, La.



SANDOZ FORECASTS

FRENCH MOCHA

a warm, new hue for fallwear

Inspired by Paris in autumn, this lively new brown serves as a dramatic backdrop for fall's golds, russets and yellows.

Thinking ahead in textiles for *your* profit, Sandoz brings to your attention FRENCH MOCHA, selected by the Textile Color Card Association and suggested for fall promotion.

It's ideal for woolens, gloves, hats . . . and shoes, too.

To help you be in fashion's forefront with an accurate rendition of FRENCH MOCHA, Sandoz recommends, for high-grade worsteds and woolens, its

Metomega Chrome Brown RLL, 3GL

Metomega Chrome Black Blue G

unsurpassed in fastness, accurate matching and reduced boiling time.

For forecast colors as well as perennial favorites . . . for both natural and synthetic fibres . . . select from the Sandoz line of chrome, acid and direct dyes and auxiliary chemicals.

read all about the FAST news in blues

SANDOZ CHEMICAL WORKS, INC., 61 Van Dam Street, New York 13, N. Y. Application Laboratories and stocks at Boston, Philadelphia, Charlotte, Chicago, Los Angeles, Toronto. Other branches at Providence, Fairlawn, N. J., and Montreal.

SANDOZ *thinks ahead with textiles*

SANDOZ

At last! A direct blue that's both wet-and-light fast!

CUPROFIX blue FGL pat.

Now, you can dye cottons, rayons, blends, with CUPROFIX Blue FGL pat., a general utility blue also known as Pyrazol Fast Blue FGL pat., and greatly improve the wet fastness by an after-treatment of CUPROFIX 47.

This level-dyeing, greenish-blue is ideal for viscose, acetates, rayons and wools to be resin-treated, as well as prints of light and medium dischargeable shades (resin-treating optional).

CUPROFIX colors and after-treatment give you the only *direct*-dye method comparable to costlier vat dyes...*triple*-fast, to *sunlight*, *washing*, *perspiration*.

Label Your Spun Rayon Garments "WASHABLE"

Adding CUPROFIX to the resin bath increases fastness to washing sufficiently to permit labeling garments "washable" instead of just "dry cleanable." It also:

- materially increases efficiency of the usual resin treatment
- eliminates in many cases the effect of resin on light fastness

Since CUPROFIX colors cost so little more than direct dyes, isn't it *smart business* to after-treat? Write us for free booklet.

CUPROFIX Blue FGL pat. (after-treated with CUFROFIX 47) Fastness Properties

Solubility at 175 F (80 c) ..... 50 grams per litre

		COTTON	VISCOSE
Fastness to Light		6 6–7 7	6–7 7 7
Fastness to Water:	change in shade	5	5
	staining	5	5
Fastness to Washing at 140 F:	change in shade	4–5	4–5
(medium shades)	staining	4	4–5
Fastness to Alkalies		4	4
Fastness to Sulphite		5	5
Fastness to Acids:	Acetic Acid 30%	5	4
	Hydrochloric Acid 10%	2	2
Fastness to Scrooping		4	4
Fastness to Rubbing		5	5
Fastness to Perspiration:	change in shade	4–5	4–5
	staining of wool	5	5
	staining of cotton	5	5
Fastness to Heat		5	4–5
Fastness to Hot Wet Pressing		5	5
Fastness to Formaldehyde		4	4
Dischargeability by special recipe		4	4
Sensitive to Metals:	copper	4	4
	iron	4	4
Sensitive to Lime		not sensitive	
Change of shade in artificial light		greener	greener
Reserve of Acetate Rayon (Type ACS)		white	white
Reserve of Nylon		white	white
Suitability for rubberized goods		not suitable	
Suitability for anti-crease treatment		suitable	
Temperature of maximum exhaustion		175–195 F (80–90 C)	

5 (8 for light-fastness) denotes the best,
1 denotes the least degree of fastness.

FAST TO HOME LAUNDERING
CUPROFIX
BY SANDOZ CUPROFIX

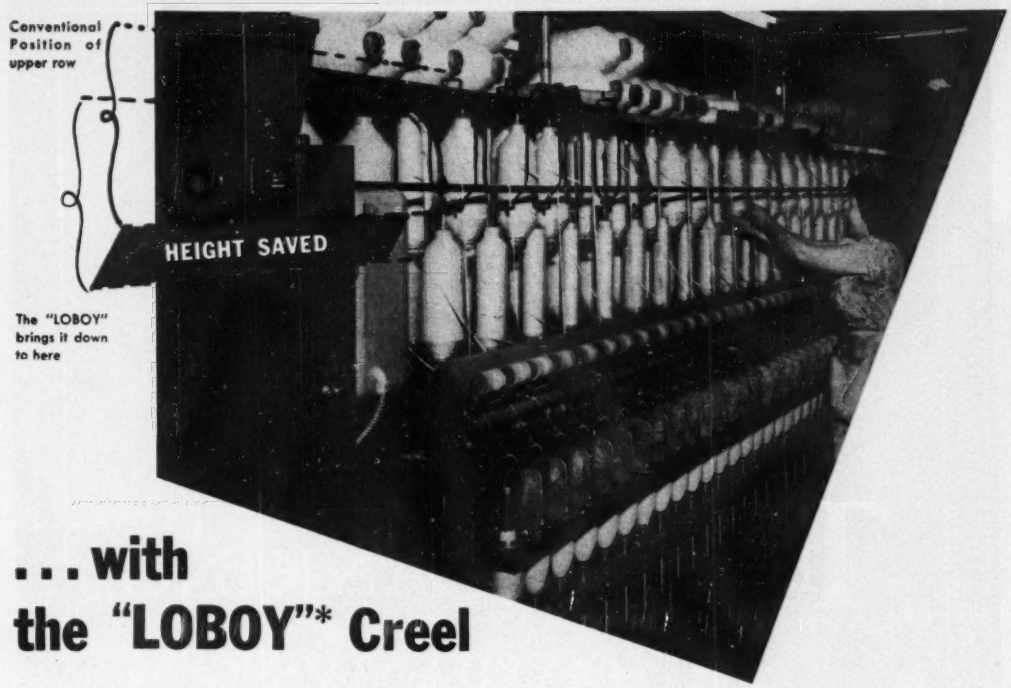
SANDOZ *thinks ahead with textiles*

SANDOZ

SANDOZ CHEMICAL WORKS, INC.

61 Van Dam Street, New York 13, N. Y. Application laboratories and stocks at Boston, Philadelphia, Charlotte, Chicago, Los Angeles, Toronto. Other branches at Providence, Fairlawn, N. J. and Montreal

Bring Those Bobbins Within Easy Reach



. . . with the "LOBOY"* Creel

The new "Loboy" Creel brings your upper rows within easy reach of your spinners . . . even when you use oversize bobbins. It saves backaches, time, and trouble, especially when working on the heavier yarns required on most defense orders. "Loboy" Creels are easier to clean, too.

The combination of "Loboy" Creels and Pneumafil Systems puts your spinning frames at peak operating efficiency and makes it possible to produce more and better yarn at reduced costs. Write or wire for full information on "Loboy" and Pneumafil installations.

*Pronounced "LOW BOY"

South American and Continental Europe:
Luwa, S.A., Zurich, Switzerland

Canada:
Ian M. Haldane & Co.
P. O. Box 54
London, Canada

Mexico:
Compania De Industria Y, Comercia, S.A.
Mexico, D. F., Mexico

PNEUMAFIL®

CORPORATION • 2516 Wilkinson Blvd., Charlotte, N. C.

Sales Offices: Boston—Philadelphia—Atlanta

TEXTILE BANKING COMPANY

Inc.

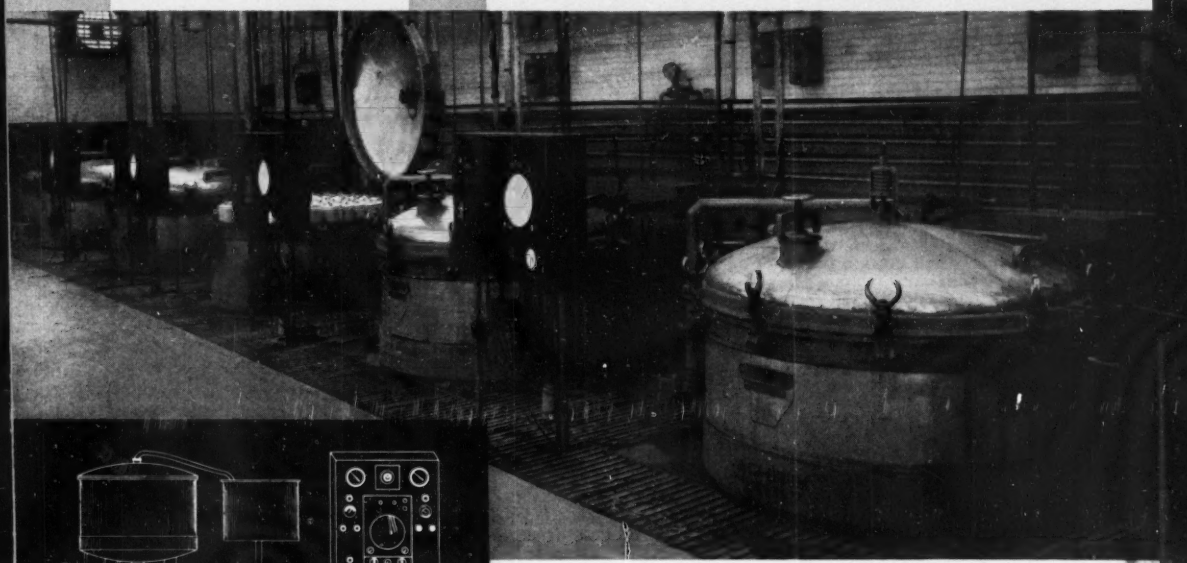
Factoring Service

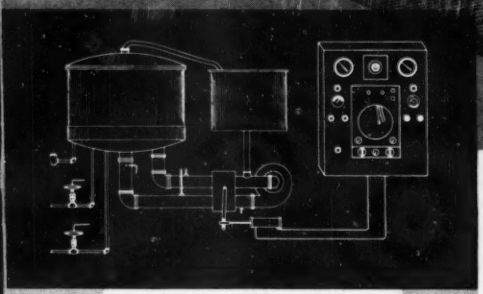
Puts your sales on a cash basis
Strengthens your cash position
Relieves you of credit losses

55 MADISON AVENUE • NEW YORK

BROWN INSTRUMENTATION
IS KEYED TO THE NEED OF
EVERY TEXTILE PROCESS

Maximum brilliance, levelness, penetration . . . *in package* (and beam) *dyeing*





YOU CAN ATTAIN THESE OPERATING ADVANTAGES!

- *Maintenance of optimum temperature.*
- *Close control of dye exhaustion.*
- *Assured levelness and penetration.*
- *Certainty of maximum exhaustion.*

Write for Data Sheet No. 8.1-12

Those three, important production qualities can be more easily and effectively maintained by your Kettle operator . . . when the process is guided by a Brown Package Dyeing Control System.

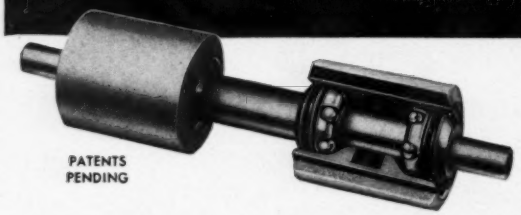
Proved for long and satisfactory service, in installations such as the one pictured . . . it provides precise and accurate control, controlled rate of rise, automatically timed reversals and total process cycle, and easy shifting between manual and automatic operation. This system is another example of how Brown Instrumentation is keyed to the need of specific Textile Industry processes . . . stemming from application experience and engineering know-how, and backed by the nation-wide network of Honeywell branch offices and service centers. Call our local representative today . . . for help with your control problems.

MINNEAPOLIS-HONEYWELL REGULATOR CO., *Industrial Division*, 4492 Wayne Ave., Philadelphia 44, Pa.

MINNEAPOLIS
Honeywell

Brown Instruments

2 MILLION CLIMAX TOP ROLLS Serving 4 MILLION Spindles



PATENTS PENDING

Within 4 years, acceptance by Textile Mills has totalled 2 Million Climax Ball Bearing Top Rolls for roving and spinning. These mills enjoy substantial direct savings, have fewer production interruptions, and report definite and desirable improvements in yarn quality. That is why we believe sincerely that CLIMAX is—

"The Top Roll you will eventually adopt"

The BALL-BEARING Top Roll

Each Roll has four ball bearings. So constructed and sealed that roll does not wind up lint nor leak lubricant. Only CLIMAX — among anti-friction top rolls—permits "integral re-covering" and "integral buffing", without disassembling.

"The Top Roll you will eventually adopt"

Climax Ball Bearing Top Rolls adopted by

Whitin

MACHINE WORKS

and supplied on Whitin machinery as standard where anti-friction rolls are required. Climax Rolls are available through Whitin Machine Works and all of their agents.

MACHINECRAFT, INC.

21 VERNON STREET, WHITMAN, MASS.

Northern Sales:
Richard K. Butler
P. O. Box 428
Whitman, Mass.

Southern Sales:
Watson & Desmond
P. O. Box 1954
Charlotte, N. C.

Brazil:
Edvard Seelig & Cia, Ltd.
Caixa Postal 5904
Sao Paulo, Brazil

Mexico:
Slobotzky, S. A.
Avenida, Uruguay 55
Mexico, D. F.

For European Service:
Victor Beecroft
Leathley, Otley, Yorkshire, England

Only **CLIMAX**

among anti-friction rolls, permits INTEGRAL RECOVERING and INTEGRAL BUFFING—WITHOUT DISASSEMBLING

Climax Ball Bearing Top Rolls are made for

- Cotton System Spinning Rolls for all standard and long-draft systems
- Cotton System Roving Rolls
- American System Worsted Rolls
- French and Bradford Worsted Rolls
- Wool Spinning Rolls

Climax Rolls are custom-made to suit your equipment and your weighting requirements.

OILITE Finished Machine Parts give you these important advantages:

- **Quick delivery**
- **No tooling program**
- **Low price**
- **Release of skilled manpower**
- **Conservation of strategic materials**

ALTERNATE MATERIAL
Oilite gives you a dependable alternate for bronze, brass, aluminum, cast iron, steel, and plastics.

MACHINING ELIMINATED
Oilite processes help you eliminate as many as twenty-four machining operations.

SIMPLE TOOLING
Oilite products require little tooling; saving you floor space, jigs and fixtures, skilled manpower, and time.

UNDUPLICATED EXPERIENCE
Oilite engineers pioneered iron powder metallurgy; their experience of more than twenty years, and Oilite's broad facilities are at your disposal.

OILITE FERROUS-BASE BEARINGS
Heavy duty, oil-cushion, self-lubricating.
Excellent for replacing your nonferrous units of solid material.

Oilite representatives and field engineers are located throughout the U. S. and Canada. You are invited to contact the field engineer in your district or write the home office.

AMPLEX MANUFACTURING COMPANY
Subsidiary of Chrysler Corporation
DETROIT 31, MICHIGAN

Besides Field Engineers, Supply Depots, too, are maintained in Principal U. S. and Canadian Cities.

A Note to Executives

Some facts about Oilite Products

Essentially, Oilite metal powder products constitute a new series of metals—each formulated to do a specific job. When used as replacements for tin, aluminum, copper, and other strategic materials, they often become permanent replacements.

For example, on any unit where motion occurs, Oilite provides the otherwise unobtainable feature of self-lubrication.

As with any other new material, habitual specifications should often be reviewed when considering Oilite finished machine parts. To illustrate, designers using cold rolled steel, may automatically apply the strength specifications of that material. The engineer, however, knows that strength as low as 40% of steel is satisfactory.

Another advantage of Oilite is its broad range of physical properties. Thus, when high stresses exist, Oilite engineers specify the correct material necessary to meet the requirements.

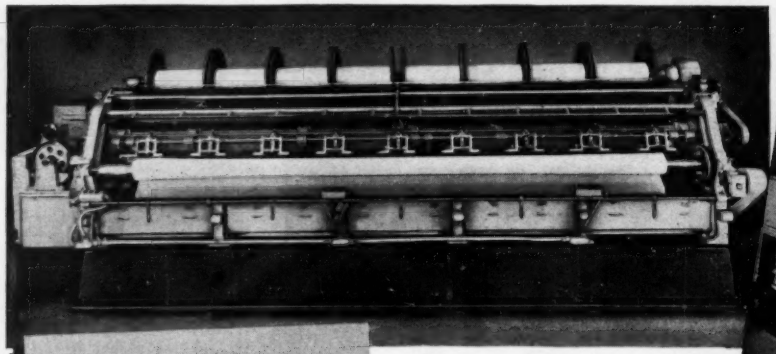
When production, including mass quantities, must be reached in record time, Oilite bearings and finished machine parts may provide you with an excellent reservoir.

President

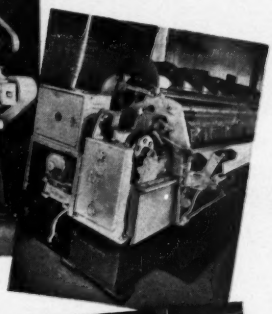
OILITE
PRODUCTS

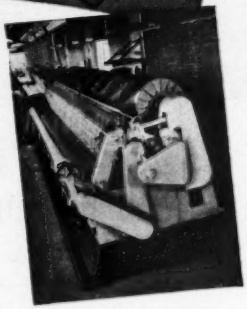
OILITE PRODUCTS:
Heavy duty, oil-cushioned, self-lubricating bearings and finished machine parts in ferrous and nonferrous metals and alloys. Permanent filters. Friction units. Self-lubricating cored and bar stock.

You'll hit new production records with the Kidde-Aveco Tricot Machine!



Left end of machine showing enclosed gear box, pattern mechanism, motor and the controls.





Right end showing continuous let-down and take-up.

CHECK THESE FEATURES:

New Continuous Let-Down
Easy to set and maintain because it's mechanical. Eliminates shade marks, reduces stop marks and improves fabric quality.

New Variable Speed Drive
A turn of a hand wheel varies machine speed. No chain drive . . . no gears to be changed . . . quieter operation. Tachometer included.

New Continuous Take-up
Quality is established by a simple turn of adjustment screw. No gears or sprockets to be changed. No clutch. Once set, it requires no adjustment.

Other Features
These include improved plunger design, improved front guide bar lifting mechanism, quick-stop and jogging control.

NEW KIDDE-AVECO IS A HIGH POUNDAGE PRODUCER

The new Kidde-Aveco Tricot combines the essentials for large production... high operating speed with high efficiency. Speeds up to 450 courses, depending upon the pattern and yarn, are practical and are being maintained in mills today.

Equally important, the Kidde-Aveco Machine has acquired a reputation for low needle breakage. The press action is gentle and the needle life is better than usual. This means fewer defects and less down time. Other factors contributing to efficiency are enclosed cams running in oil... a one-piece cast girder that maintains machine alignment... and the rugged one-piece base... all exclusive Kidde-Aveco features.

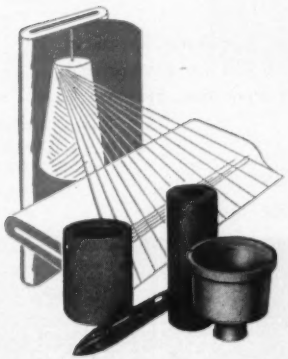
Either to replace old machines or to increase capacity, the Kidde-Aveco is worth investigating. May we send you complete information?

KIDDE MANUFACTURING CO., INC., BLOOMFIELD, NEW JERSEY

Kidde-Aveco
FOR TOP-QUALITY FABRICS

Wherever textiles are made...

micarta is basic!



TEXTILE INDUSTRY

MICARTA does important textile jobs better than other basic materials. Bobbins, spinning buckets, lap rolls and shuttles are only a few of the MICARTA products which stand up under tough operating conditions. When you're looking for better performance, investigate the paying qualities of MICARTA.

MICARTA® is important in the making of cottons, synthetics, wools and blends. It is a basic material . . . a versatile, durable plastic. It stands up to punishment in bobbins, spinning buckets, lap rolls, shuttles . . . wherever the job calls for long life, smooth wear.

MICARTA won't chip or splinter . . . can't snag yarns or fabrics. It absorbs shock and vibration, resists heat and cold. MICARTA outlasts metal and wood in many key textile applications. This basic material can be machined, formed or molded easier and more economically than any metal.

Explore the paying qualities of this lighter-than-aluminum plastic. Westinghouse Electric Corporation, MICARTA Division, Trafford, Pennsylvania. J-06450

How low can down-time get?

If you're seeing red because of down-time, it can get *you* pretty low.

We don't claim miracles, but we think we can convince you that Carrier Air Conditioning can pay for itself by reducing down-time . . .

. . . With your evap cooling system, temperature varies with outside conditions. Without absolute control of temperature, you just can't get the best performance out of your men and your machines. Dimensions and tolerances fluctuate with heat change, throwing machines out of adjustment. Workers can't help being careless when they're hot and tired.

And what about the overhead when those machines are down because of absenteeism and turnover?

Any way you look at it, it all adds up to lots of down-time. And *absolute* control of both temperature and humidity with refrigeration is the answer.

Because with a refrigeration system, you don't care about outside conditions. Write us. We can tell you how your present system can be switched over. Carrier Corporation, Syracuse 1, New York.

The Pacolet Manufacturing Company cut the number of ends down in half by adding Carrier refrigeration to their existing spinning room system—and reducing their relative humidity to an ideal of 50%.

Relative humidity 60%, constant summer temperature 86 degrees in the Judson Mill where filament rayon is processed. The system is a Carrier Central Station, with a 600-ton Refrigerating Machine.

"HE'S THE ONLY ONE IN THE LAB THAT CAN UNDERSTAND GOVERNMENT SPECIFICATIONS."

SEYCO Products

WARP SIZING
- Softeners
- Binders
- Penetrants
- Ty-In Penetrants
- Shuttle Dressing

WET PROCESSING CHEMICALS AND AUXILIARIES
- Dye Assistants
- Penetrants
- Rewetting Agents
- Sanforized Fabric Oils
- Detergents
- Scouring Agents
- Softeners

NIAGARA TWIST-SETTER
- Yarn Conditioning Penetrants

Don't let a new set of specifications* make a monkey out of you. Just call SEYCO.

Our wide range of experience will help you set up for new styles with a minimum of effort and experiment.

*Govt. or otherwise

HEADQUARTERS FOR TEXTILE CHEMICALS

SEYDEL-WOOLLEY & CO.

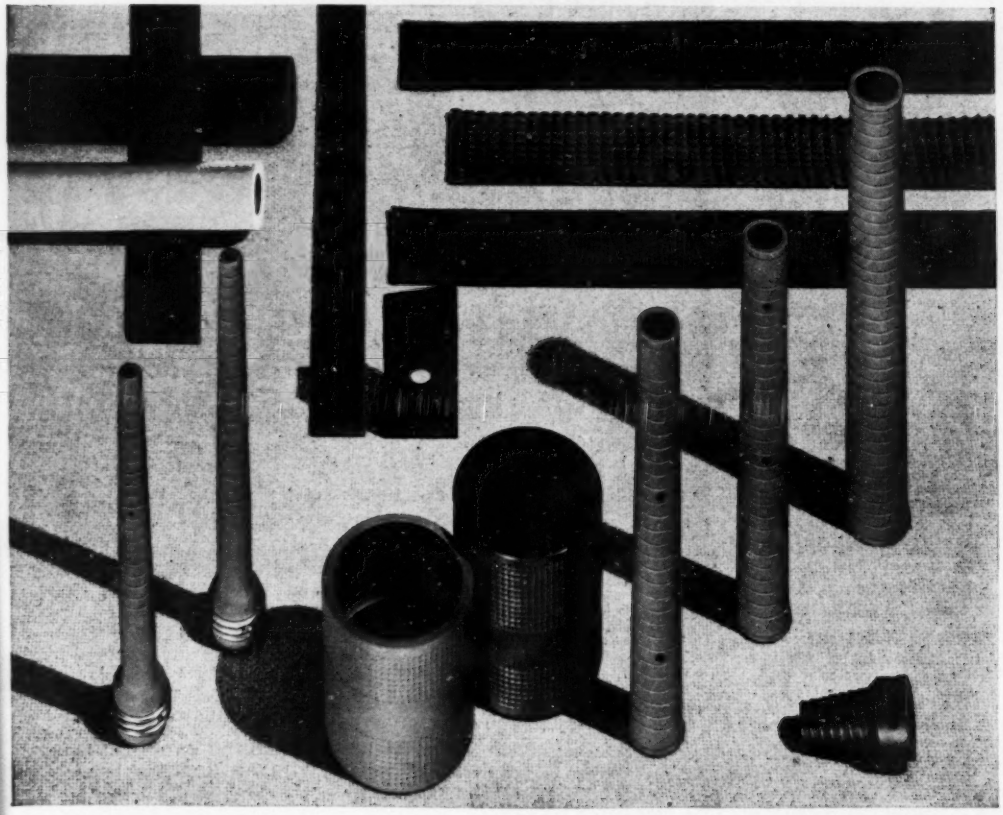
TEXTILE CHEMICALS

748 RICE STREET • ATLANTA, GA.

SEYCO

PENETRANTS • SIZING • SHUTTLE DRESSING • SOFTENERS • ALKALIS • TWIST SETTER MACHINES •

How has U. S. Rubber improved textile mill specialties?



This new line of mill specialties is made of plastics and plastic compounds developed by United States Rubber Company engineers. These are *more durable* and permit a *higher quantity* of textile output—with new savings in operating costs. These "U. S." Textile Mill Specialties have been thoroughly tested and prove.. in the textile mills of United States Rubber Company and many other leading mills. Investigate today. Write to address below.

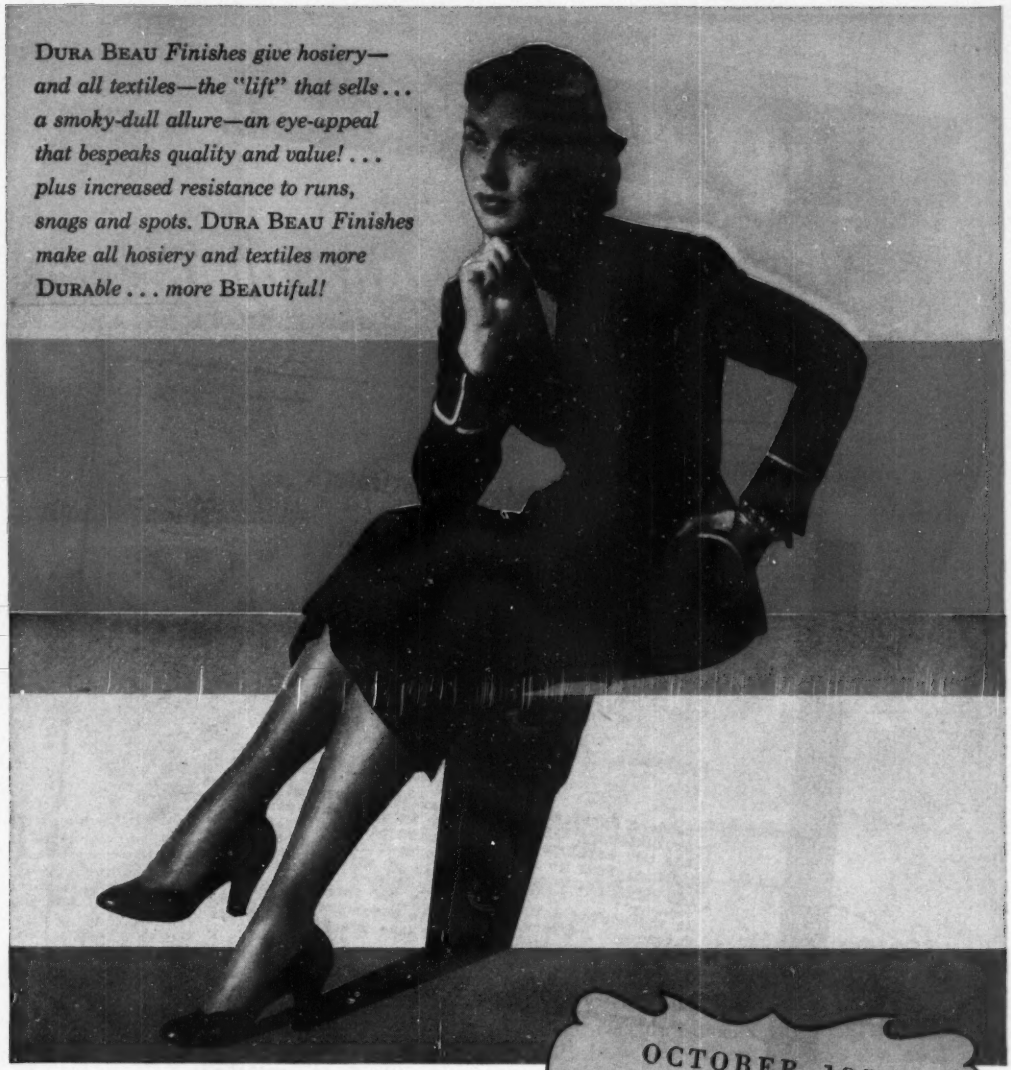
U. S. TEXTILE MILL SPECIALTIES

Spooler sleeves • Filling bobbins • Spindle bumper tubing • Warp spinning tubes • Cop butts • Ustex-nylon spinner belts • Loom bumpers • Presser roll tubing • Loom straps • Warp compressor roll covers • Sand roll covers

PRODUCTS OF U.S.RUBBER SERVING THROUGH SCIENCE

UNITED STATES RUBBER COMPANY

MECHANICAL GOODS DIVISION • ROCKEFELLER CENTER, NEW YORK 20, N. Y.

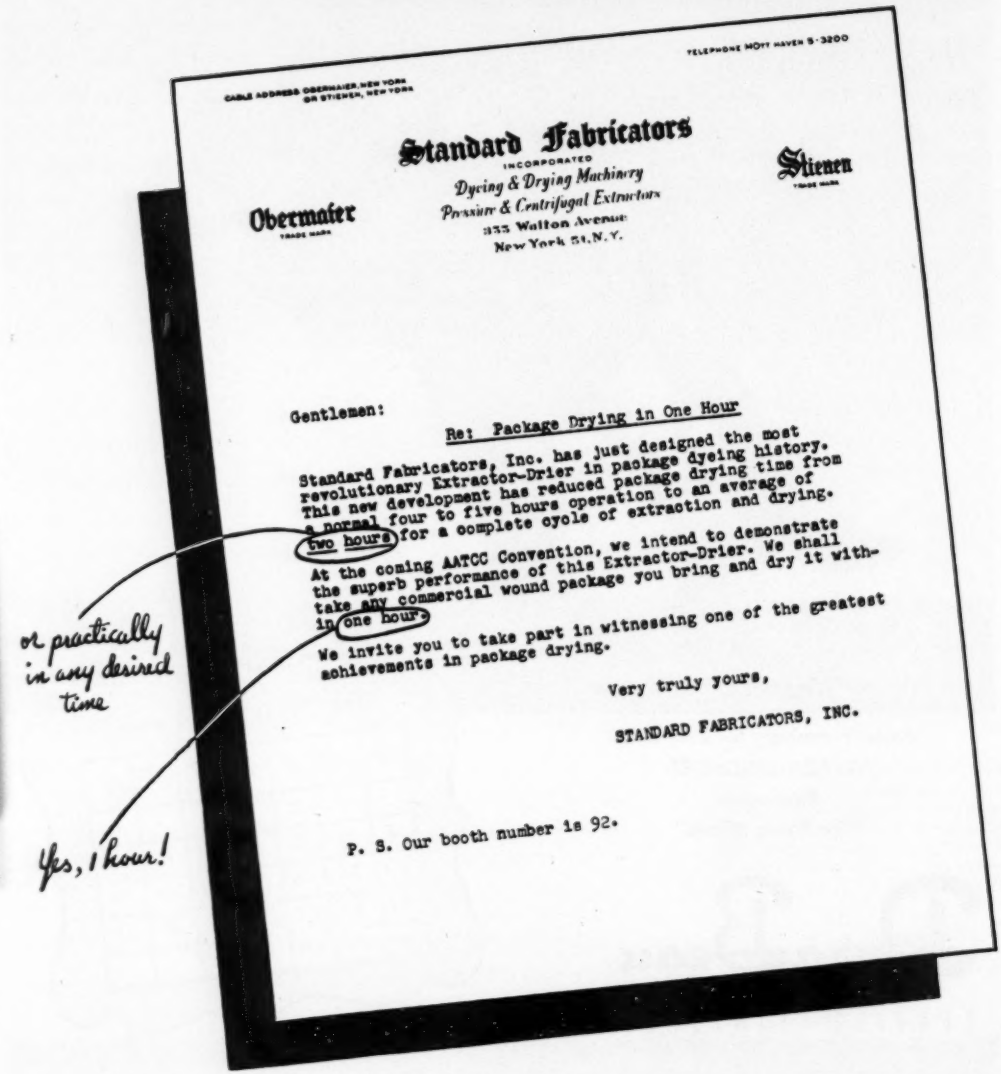

DURA BEAU *Finishes give hosiery—*
and all textiles—the "lift" that sells . . .
a smoky-dull allure—an eye-appeal
that bespeaks quality and value! . . .
plus increased resistance to runs,
snags and spots. DURA BEAU *Finishes*
make all hosiery and textiles more
DURA*ble . . . more* BEAU*tiful!*

Posed Exclusively for DURA BEAU
VIVECA LINDFORS
Starring in
"The Flying Missile"

DuraBeau
Reg. U.S.A. and Canada
TEXTILE FINISHES

SCHOLLER BROS., INC. • Manufacturers of Soaps, Softeners, Sulphonated Oils and Finishes • Collins & Westmoreland Sts., Phila. 34, Pa. • St. Catharines, Ont., Can.

An open letter to package dyers



TELEPHONE MOTT HAVEN 5-3200

CABLE ADDRESS OBERMAIER, NEW YORK
OR STIENEN, NEW YORK

Standard Fabricators
INCORPORATED
Dyeing & Drying Machinery
Pressure & Centrifugal Extractors
333 Walton Avenue
New York 54, N.Y.

Obermaier TRADE MARK

Stienen TRADE MARK

Gentlemen:

Re: Package Drying in One Hour

Standard Fabricators, Inc. has just designed the most revolutionary Extractor-Drier in package dyeing history. This new development has reduced package drying time from a normal four to five hours operation to an average of two hours for a complete cycle of extraction and drying.

At the coming AATCC Convention, we intend to demonstrate the superb performance of this Extractor-Drier. We shall take any commercial wound package you bring and dry it with-in one hour.

We invite you to take part in witnessing one of the greatest achievements in package drying.

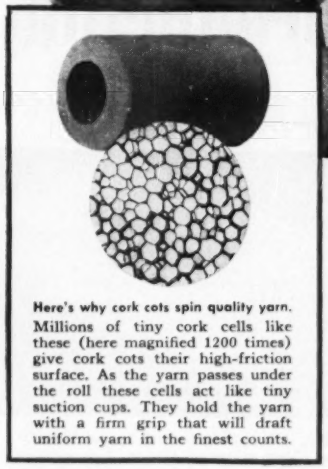
Very truly yours,

STANDARD FABRICATORS, INC.

P. S. Our booth number is 92.

or practically in any desired time

Yes, 1 hour!



Here's why cork cots spin quality yarn. Millions of tiny cork cells like these (here magnified 1200 times) give cork cots their high-friction surface. As the yarn passes under the roll these cells act like tiny suction cups. They hold the yarn with a firm grip that will draft uniform yarn in the finest counts.

For spinning quality yarns there is no better cover

Mill men tell us they've never found a cover that drafts better than an Armstrong's Cork Cot. Its high-friction surface holds the yarn in a steady grip that drafts out uniform, top-quality yarn on even the finest counts.

This superior high-friction drafting surface also prevents eyebrowing. Loose fibers are pushed back under the clearer board where they belong. Fewer fibers are pulled out of the stock. In fact, some mills report that clearer waste drops as much as 50% when Armstrong's Cork Cots are installed on their frames.

Best of all, Armstrong's Cork Cots are economical. Low in first cost, they also save time in the roll shop. Because they are seamless and pre-glued, they slip on the roll in one quick operation. An occasional light buffing keeps these covers spinning like new.

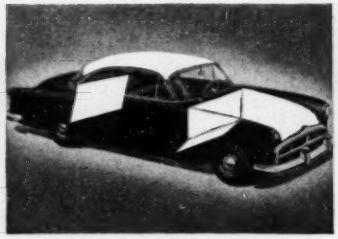
Next time your Armstrong man calls, ask him to arrange a trial installation of Armstrong's Cork Covers. If you prefer, write Armstrong Cork Company, Textile Products Department, 3610 Arch Street, Lancaster, Pennsylvania. Available for export.

ARMSTRONG'S CORK COTS

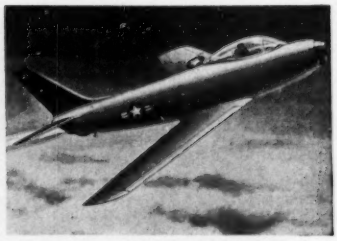
for high-quality spinning . . . at low cost

For further information use Helpful Booklet Card—TEXTILE INDUSTRIES • OCTOBER, 1951

Automobile tops, insulated with L·O·F Fiber·Glass against heat and cold, increase passenger comfort. Easy installation. Light weight. Won't deteriorate under normal conditions.

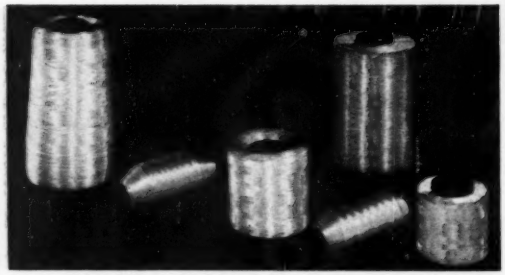


Automobile sound insulation a made-to-order job for L·O·F Fiber·Glass. Easy installation in doors, under the dash, on the fire wall, under the hood. Low moisture absorption, light weight

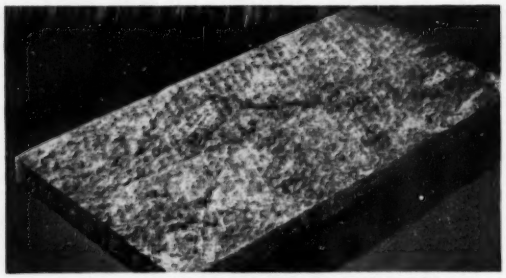


Aircraft sound and thermal insulation. Get these advantages of L·O·F Fiber·Glass. Light weight (as low as .3 lb. per cu. ft.). High fire safety. Low moisture pickup. High sound-insulating efficiency.

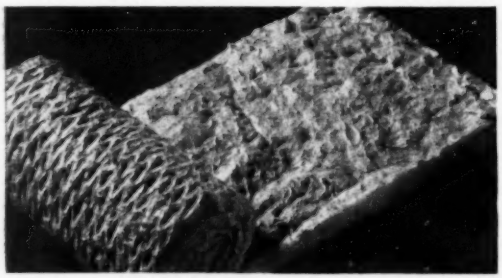
Proven glass technology plus now devoted to early production



Continuous Fiber Textile Yarn—150 series for many uses, such as electrical insulating tape, sleeving, cloth, roving, and paper reinforcement. Glass fibers have enormous tensile strength . . . 1½ million pounds per square inch and higher. High dielectric strength. Withstands temperatures up to 800°F.

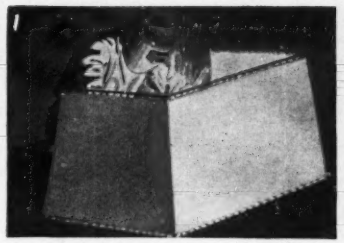


Super-Fine "B" Fiber—Splendid thermal- and sound-insulating qualities. Fiber diameter, .00012". Temperature range –0°F. to plus 450°F. Standard roll widths, 18", 24", 36", 72", in 100' and 200' lengths. Other widths and lengths also available in a range of thicknesses and densities.

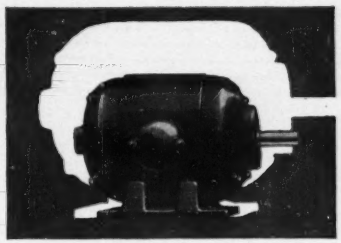


Super-Fine "AA" Fiber—primarily for aircraft insulation. Thickness, .5" with density of .6 lb. per cu. ft. Fibers of incredibly small diameter—.00004". With plastic binder to hold dimensional form. Roll widths, 36", 72", in 50' standard length.

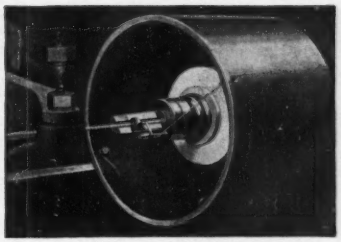
Roving, Chopped Strand and Textile Yarns—for reinforcing of plastics, paper, cloth and paper tape, etc. Enormous tensile strength. Won't shrink or stretch. Won't deteriorate under normal conditions. Versatile in application.



Industrial fabrics woven from Fiber·Glass are fine, safe, strong, rot- and mildew-proof. Ideal applications are tarpaulins, flame shields, airplane cloth, reinforcement for plastics.



Electric motors and generators insulated with L·O·F Fiber·Glass withstand heavy overloads. Appreciable space factor advantages! High dielectric strength.



Wire and cable can be served directly with L·O·F Fiber·Glass textile yarns using standard machines. Yarn also ideal for weaving tape, and braiding on wire and into sleeving.

fine, new facilities of L·O·F FIBER·GLASS!

Aviation, automotive, textile and electrical industries first to benefit from new, high-quality source of supply being readied by Libbey•Owens•Ford

HERE IS headline news of *immediate* interest to key men of business and industry.

The resources and advanced technical glass knowledge of Libbey·Owens·Ford are being focused on a new product—L·O·F Fiber·Glass!

With fine, new facilities at Parkersburg, W. Va., placed to serve you quickly, glass technicians of proven ability and experience are getting set to produce top-quality Fiber·Glass products in volume. (See facing page for basic items to be produced. Note above and right for typical applications.)

Across the country, in 24 major cities, L·O·F offices are busy with preparations to give you help on specific uses.

If your company has already discovered the superior qualities of fibrous glass, investigate L·O·F now as a new volume source, worthy of your complete confidence.

If your company now buys other material for electrical insulation, thermal or acoustical insulation, or reinforcing for plastics or paper, L·O·F Fiber·Glass can offer a combination of advantages unmatched by such other materials. This is a chance to benefit from the glass technology and the high standard of quality which you have come to expect from L·O·F!

For technical data, or engineering consultation on Fiber·Glass uses in your business, call your local L·O·F office—or write, wire or phone Libbey·Owens·Ford, Dept. F·G 106, Nicholas Bldg., Toledo 3, Ohio.

Plastic reinforcing, as in this bread tote tray, presents many possibilities with L·O·F Fiber·Glass. Remarkable strength. Won't dent or lose shape. No discoloration of plastic material. Exceptionally long life.

Paper and paper tape reinforced with L·O·F Fiber·Glass can be raised in tensile strength to equal aluminum or even steel! Either Fiber·Glass textile yarns or scrim mesh are suitable. Investigate!

LIBBEY·OWENS·FORD GLASS COMPANY

FIBER·GLASS DIVISION

L O F FIBER·GLASS

FIBER·GLASS

L. F. Dommerich & Co., Inc.

Executive and General Offices

271 MADISON AVENUE

NEW YORK 16, N. Y.

Telephone: Murray Hill 3-8650

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For Manufacturers and Merchants

Inquiries as to our services solicited

•

ESTABLISHED 1840

"Nothing is more important in the manufacture of women's hosiery than good knitting"

says JACQUELINE FISHER,

Women's Hosiery Buyer, Broadway Department Store, Inc., Los Angeles

And good knitting is also of paramount importance in assuring the continued sales-success of your brand. That is why so many leading mills zealously guard the quality of their merchandise by always insisting on

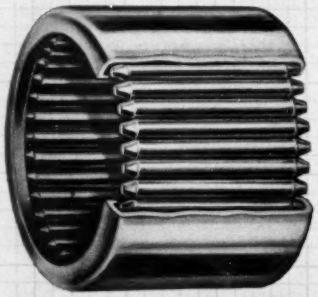
TORRINGTON

SPRING BEARD NEEDLES · SINKERS · DIVIDERS · SPLIT DIVIDERS

THE TORRINGTON COMPANY, Torrington, Conn., U. S. A.
Established 1866

Branches: New York · Philadelphia · Chicago · Greensboro, N. C. · Boston · St. Louis
Toronto, Can. · *Pacific Coast Representative:* E. G. Paules, 1762 West Vernon Ave.,
Los Angeles 37, Calif. Broadgate House, 7-10 Eldon St., London E. C. 2, England

...with plenty to spare



Torrington Needle Bearings have cleared the exacting specifications for use in countless products carrying the most famous names in American industry.

Leading manufacturers in the automotive, aircraft, farm machinery, textile equipment, machine tool and many other fields have found that Needle Bearings more than meet their rigid standards of quality and performance.

If you'd like to know more about the high load capacity, long service life, weight- and space-savings and other advantages of Torrington Needle Bearings in terms of your own product, our engineers will be glad to help.

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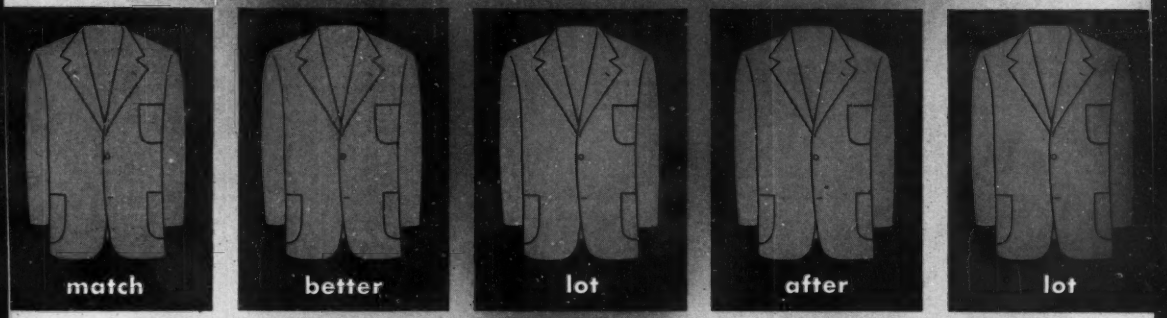
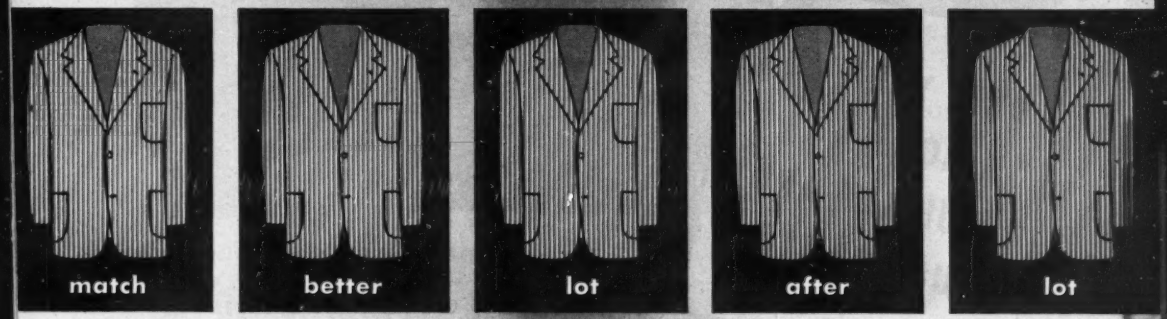
TORRINGTON *NEEDLE* BEARINGS

NEEDLE • SPHERICAL ROLLER • TAPERED ROLLER • STRAIGHT ROLLER • BALL • NEEDLE ROLLERS

uniformity





Color uniformity and fastness are the things you want in the dyestuffs you purchase . . . in order that you, in turn, can deliver color uniformity and fastness in the work you produce. Use ALTCO wash and light-fast dyestuffs — benefit from our more advanced methods, special equipment and precision control in dye making.

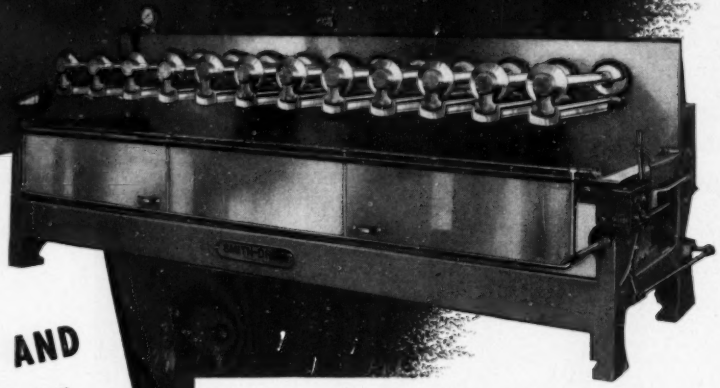
Whether you're dyeing fabrics for suits or draperies, for dresses or upholsteries, you can use ALTCO on all rayons, mixed fabrics and cottons with security, because they HOLD IN SERVICE. Our service staff is manned by experts with *many years of practical Dye House Experience*, who will solve your problems in our laboratories or right in your own mill. Call on us!

Chemical Company, Inc.

READING, PENNSYLVANIA

pace-setter in precision dye-making

Those 2 Advantages have been Proved MILLIONS OF TIMES!



DYES YARN MORE QUICKLY AND UNIFORMLY

KEEPS YARN IN BETTER CONDITION FOR WINDING

This famous SMITH-DRUM Skein Dyeing Machine introduced the revolutionary principle of "moving the liquor instead of the yarn". As a result of this principle, it provides two great money-saving advantages:

1st—The yarn is dyed more quickly and uniformly.

2nd—The yarn is kept in better condition for winding because tangling or breaking of the filaments is prevented.

Both of these advantages result in greatly improved quality and big savings in time and money. Both have been proved by every batch they have handled. And that means they have been proved many millions of times. For these machines are in daily use in a majority of the leading dyehouses which dye filament rayon and nylon yarns and fine count cotton yarns in skein form. It will pay you to get the complete facts.

SMITH-DRUM & COMPANY

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It's

DU PONT CONTINUOUS PEROXIDE BLEACHING SYSTEMS

for efficient, economical

KNIT GOODS BLEACHING

These installations now producing over 60,000 pounds per day!

POTTSVILLE

Bleaching and Dyeing Co.
Port Carbon, Pa.

Installed.....July, 1948
Capacity.....3,000 lbs./hr.
Goods Processed.....Cotton ribbed knit material and flat knit of all sizes and weights

Processing time cut to less than 2 hours . . . Substantial savings in steam, water, and chemicals.

SPRING CITY

Bleach and Dye Works
Spring City, Pa.

Installed.....July, 1947
Capacity.....3,000 lbs./per hr.
Goods Processed.....Cotton knit

Bleaching time reduced 90% on light- and medium-weight fabrics . . . All operations easily handled by two men.

LUMBERTON

Bleach and Dye Works
Lumberton, N. C.

Installed.....March, 1948
Capacity.....2,500 lbs./per hr.
Goods Processed.....Cotton knit underwear fabrics

Results satisfactory in every respect . . . Millions of yards processed speedily and economically since installation.

OUTSTANDING RESULTS LIKE THESE are being duplicated everywhere the Du Pont Continuous Peroxide Bleaching System is used. Why not check its excellent possibilities for your plant right now?

FOR MORE INFORMATION

on Du Pont Continuous Peroxide Bleaching Systems, just write: E. I. du Pont de Nemours & Co. (Inc.), Electrochemicals Dept., Wilmington, Del.

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BETTER THINGS FOR BETTER LIVING . . . *THROUGH CHEMISTRY*

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Electrochemicals Department, Wilmington 98, Del.
Please send me your Bulletin—P 35-1148—"Bleaching Cotton Knit Goods in the Du Pont Continuous Bleaching Range".

Name_____ Title_____
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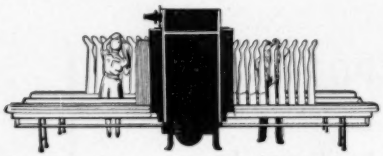
let's talk economy....

...let's talk PREBOARDING AND BOARDING

TURBO "Gentle as a Lamb" Machines are big cost savers in Finishing Departments. Quiet, gentle action. Completely automatic. No banging, no jolting. Forms stay upright, fabric won't creep. A simple clamp holds leg forms, speeds change-over time. No tilting of the boards—easy on your hosiery—easy on the operator.



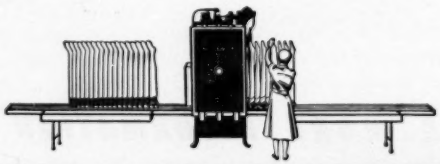
TURBO SOLID LEG FORMS—one piece, solid aluminum, shaped to your requirements. Glass-smooth to protect stockings from snags and pulls.

TURBO FINISH BOARDER—for quick-dry, static-free stockings. Two boarders for a 250 doz. pr. per 8-hour day production. Requires neither static reducers nor special dampeners. Boards four sizes at one time. No service employee required to straighten piles.

TURBO PREBOARDER—A.S.M.E. approved for 30 lbs. pressure—speeds preboarding time. One operator can handle 150 doz. prs. per 8-hour day.

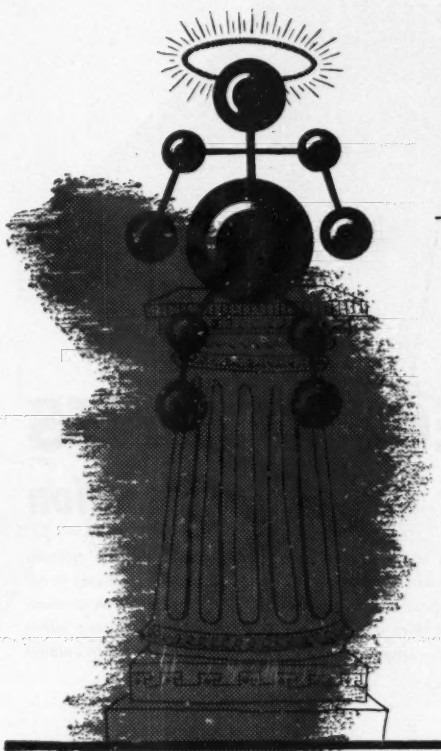
TURBO AD-48—preboards with steam and/or boards with heated air. Two groups of 24 forms each—forms are interchangeable with other TURBO Machines. Boards two sizes at one time. Assures perfectly finished static-free stockings.

FOR COMPLETE INFORMATION on stocking safety with speed and economy—write today. Profitable production demands equipment adjustable to the job. TURBO gives you this—plus versatility with scientifically designed machines engineered for long, satisfactory service. Catalog on request.



TURBO
"Gentle as a Lamb"

TURBO MACHINE COMPANY
Lansdale, Pennsylvania, U.S.A.
Southern Representative: F. W. Warrington Co., Charlotte, N. C.



Ever see an IDEAL surface active agent?

WE HAVEN'T!... When you think of all the processing jobs you would give an "all-purpose" surface active agent, you'll appreciate the versatile properties it should have. The "ideal" product must be an effective *wetting agent or penetrant* . . . an efficient *detergent* . . . a good *emulsifying, dispersing* and *rewetting* agent . . . chemically *neutral* . . . easily *soluble* in water . . . quickly *rinsed* from fibrous materials . . . *stable* under all alkaline, acid, hard water and saline conditions . . . and *low in cost*. Since no ideal surface active agent has yet been produced, many textile mill men are solving their wet processing problems in a way that makes good sense.

Many mill operators are getting Houghton Men to help choose the right surface active agent for each application

Until an "ideal" product comes along that does *all* wet processing well, carefully selecting the *best* for each job is most important. You will produce better fabrics, cut processing costs, and speed production when you choose surface active agents for the job they do the best.

Houghton's research staff has made great strides in recent years to help you do just that. A variety of surface active agents were developed for various wet processing applications. To make selection easier for you, these fall into two groups. Each is identified by name and number.

Those named "Cerfak" signify *detergents* having wetting power as well as other desirable properties. Those called "Surfax" indicate a *wetting and rewetting agent*—although they also have additional properties.

To further simplify selection, Houghton's textile engineers developed a handy application chart. It is helping processors to choose proper surface active agents for *any* textile application. We will gladly send you one.

Remember, too, that Houghton's force of over a hundred technically trained men, backed by extensive research facilities, are eager to help solve special wet processing problems. Consult the Houghton Man when he calls on your mill or write to any Houghton plant for bulletins, prices, charts and special aid.

CERFAK and SURFAX

. . . products of

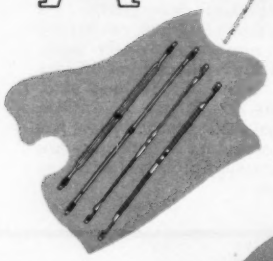
E. F. HOUGHTON & CO.

PHILADELPHIA · CHICAGO · DETROIT · SAN FRANCISCO

Ready to give you on-the-job service . . .

EVERY PIECE COUNTS
in Your Weaving Operation

In your production picture, every part counts. None can be spared, however minor it seems by itself. We've pioneered improvements in all details of loom harness equipment year by year since 1867. And when every Emmons part does its job better, lasts longer, gives more value for your investment — your whole operation moves into the profit column that much sooner!



DRAWING-IN HEDDLES

Emmons cut-out and slotted drawing-in heddles for use with Barber - Coleman drawing-in machines. Standard heddles — stainless, cadmium or nickel finish.

RIGIDREED®

Emmons RigidReed: Light, resilient, strong, compact — and long - lasting. Also standard pitchband and all-metal reeds in carbon and stainless steel.

HEDDLE FRAMES

Emmons wooden, aluminum and magnesium Standard and Drawing - In frames — all types.

EMMONS, *Leaders in Loom Harness Equipment Since 1867*

Improvements

Ask your EMMONS "E" MAN what's new!

EMMONS SLASHER AND STRIKING COMBS

*RUN-RITE PLASTIC SHEAVES AND TAPE TENSION IDLERS

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Main Office and Plant: EMMONS LOOM HARNESS CO., *Lawrence, Mass.*

backwashing tops? use

use **½ lb. NACCONOL to 100 gallons of water, with constant feed to maintain concentration.**

get **Cleaner, loftier, whiter wool with less odor and no soap residues. More uniform dyeing at lower cost.**

Yes, backwashing tops in a NACCONOL solution saves money and improves quality. And results are uniform because NACCONOL is mass-produced to the exacting quality standards of the dyestuffs industry.

For prompt service and technical assistance, write, wire or phone our nearest office.

NATIONAL ANILINE DIVISION

ALLIED CHEMICAL & DYE CORPORATION

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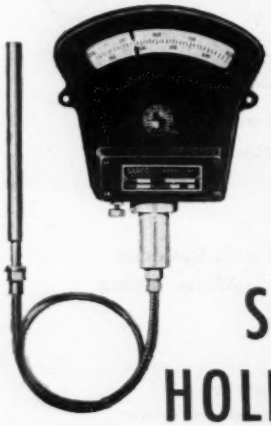
Now

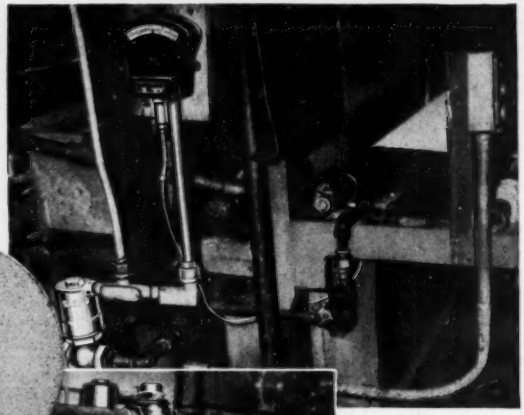
ACCURACY TO A DEGREE EVERYWHERE

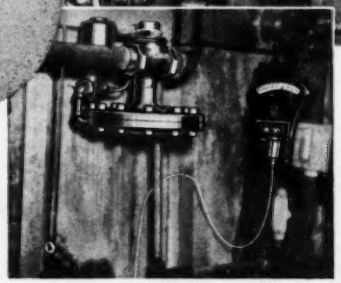
You set it
You change it
You get it—



SARCO HOLDS IT

Exactly and Always





DE-SIZING

DRYING

DYE BECKS

JIGS

PADDERS

Cut and try methods have to be used to determine ideal temperature settings whenever a new batch of goods goes through a textile processing plant.

Here's the control that can be adjusted over a wide range by the twist of the wrist as often as needed. Then regardless of other changing conditions, the temperature you want is held until you change it.

You arrive at the solution quickly—you go ahead with full assurance—full production and *no* lost goods due to temperatures. The exact temperature is also indicated—on a large dial with only the readings within your range. The LSI is not expensive—it is easy to install and rugged enough to stand up under severe service.

In combination with the Sarco DS Valve, Sarco offers a textile control system that users say has no equal.

ASK FOR DATA ON SARCO TEXTILE CONTROL SYSTEMS

261

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Represented in Principal Cities
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SARCO CANADA, LTD., TORONTO 5, ONTARIO

SARCO SAVES STEAM

IMPROVES PRODUCT QUALITY AND OUTPUT

Avisco Develops New and Better Way to Stabilize Rayon Fabrics

AVCOSET TREATMENT ELIMINATES PROGRESSIVE SHRINKAGE
FABRICS ARE NOT WEAKENED BY BLEACHING AGENTS

The Avcoset process, an important and new advance in stabilizing rayon fabrics, has been developed by Avisco. It has two principal advantages. These are: that fabrics treated with it do not shrink progressively each time they are washed and they are not weakened by bleaching agents since there is a complete lack of chlorine retention.

Tested for Two Years

More than two years evaluation by Avisco's Textile Research Department at Marcus Hook, Pa., substantiate these advantages. Treated and tested exhaustively were a variety of weaves, mostly challis, chambray, fuji and other shirting-weight fabrics. Most of them were spun viscose rayon, but they also included mixtures of spun and filament viscose rayon, and blends of viscose rayon with acetate rayon and nylon.

The tests included up to fifty laboratory washings, both according to the regular shirting formula and multiple washings at the boil. During the more than two years the tests were in progress members of the Textile Research Department staff also amassed considerable use data by wearing shirts stabilized with the Avcoset treatment.

Two commercial finishers have recently demonstrated that the Avcoset formula can be applied satisfactorily on a commercial scale. These two finishers are the Fontaine Converting Works, of Martinsville, Va., and the North Carolina Finishing Corp., of Salisbury, N. C.

Primarily for Shirting Weights

The Avcoset treatment, which uses a new alkali cellulose formula, is intended primarily for fabrics of shirting weight. While a slight loss of fabric strength is associated with the treatment, the many tests made so far indicate a loss of only 5 to 15 per cent. This compares favorably with the results achieved with other stabilizing processes.

Only a small amount of the chemicals used is consumed in controlling shrinkage within a two per cent tolerance. Normally the treatment adds but 0.5 to 1.0 per cent to the weight of the fabric.

No Special Equipment

Any well-equipped finishing plant already has on hand all the equipment needed to apply the Avcoset treatment, and American Viscose Corporation plans to make it available to the trade on a royalty-free basis. The cost of applying it is comparable to that of other stabilizing processes.

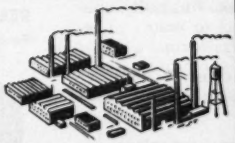
Fabrics to which the new Avcoset treatment is applied must be predominantly viscose rayon, since only viscose fibers are affected by the formula. This affinity of the Avcoset chemicals for the viscose fiber, however, does not preclude applying the treatment to fabrics containing percentages of nylon, acetate rayon, or other fibers. Such blends are effectively stabilized by the Avcoset process.

Inquiries about the Avcoset treatment are invited. Address: American Viscose Corporation, Converting Relations Department, 350 Fifth Avenue, New York 1, N. Y.

RAYON 20 YEARS AGO

NEW YORK, October, 1931 — Germany is now the leading exporter of rayon to the United States.

PARIS, October, 1931—Mlle. Suzy Vernon, a French actress, clothed in a rayon costume won the Grand Prix de l'Elegance given by The Society of French Arts and the National Society of Beaux Arts.



ROANOKE, VA., October, 1931 —The Viscose Co. has announced resumption of full time operations in its plant here.

MAKE USE OF *Avisco*® 4-PLY SERVICE

To encourage continued improvement in rayon fabrics, American Viscose Corporation conducts research and offers technical service in these fields:

1 FIBER RESEARCH
2 FABRIC DESIGN
3 FABRIC PRODUCTION
4 FABRIC FINISHING

AMERICAN VISCOSE CORPORATION

America's largest producer of rayon

Sales Offices: 350 Fifth Avenue, New York 1, N. Y.; Charlotte, N. C.; Cleveland, Ohio; Philadelphia, Pa.; Providence, R. I.

REEVES Variable Speed Transmission

The original, mechanically correct unit for providing complete, stepless speed adjustability

Industry's most widely used unit for adjusting machine speeds . . . for all these good reasons:

1. Incorporates the REEVES operating principle—proved in 300,000 installations—which assures *accurate, positive* delivery of any desired speed within the entire speed range, without stopping the machine.

2. Makes "changeovers" easier—utilizes the machine's *full* capacity—by providing the *right* speed—with the turn of handwheel or touch of button—for every operation and every operator, under every changing condition.

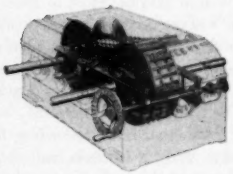
3. Wide choice of vertical and horizontal models—capacities up to 87 hp; in speed ratios of 2:1 to 16:1; manual, electric, hydraulic or completely automatic controls; suitable for mounting in any position. Also "Internals" for mounting within machine framework.

4. Easily installed on your machines. Ruggedly constructed with few moving parts subject to wear . . . requires no special tools or training to maintain.

5. Used on more different kinds of machines in a greater variety of industries than any other single variable speed drive.

Profit from REEVES Speed Control in your plant—*see immediate results.* Send for full details on REEVES Speed Control—ask for catalog No. T68-G.

Operating Principle



REEVES Variable Speed Transmission embodies the proved operating principle of a V-belt driving between two pairs of cone-shaped discs, mounted on parallel shafts and adjustable to form an infinite number of driving and driven diameters. One shaft receives power at constant speed from motor, line shaft, etc. Other shaft delivers power at infinitely variable speeds to driven machine. Each speed setting is held without fluctuation. Operation is practically noiseless.

REEVES PULLEY COMPANY • COLUMBUS, INDIANA

Recognized leader in the specialized field of speed control engineering

accurate • variable

REEVES control

NOW more STYMER is AVAILABLE

to help you cut sizing costs

Production of Stymer, Monsanto's synthetic resin sizing agent for rayon, has just been increased again. If you are looking for ways to speed production and cut costs, *now* is the time to get in touch with Monsanto. Here's why:

Stymer is uniform, dependable. A synthetic product, with definite and controlled properties, Stymer permits you to control your slashing and weaving processes more accurately, more economically.

Stymer is easily mixed and stored. Large batches of Stymer can be mixed in advance and stored uncovered for long periods, without loss.

Stymer doesn't gel when cold. It doesn't clog pipes or valves . . . doesn't "scum" in the size box . . . saves costly, time-consuming cleaning.

Stymer cuts weaving costs by reducing or eliminating static problems . . . by reducing shedding and accumulations at the drop wires, heddles or reeds . . . by preventing warp chafing . . . and in many other ways.

Stymer desizes in a hurry. Easily rinsed in warm water with a detergent in jig, beck or continuous washer, Stymer leaves the goods well prepared for subsequent operations. One more reason Stymer is in heavy demand in many of the largest and best-known rayon mills!

Stymer: Reg. U. S. Pat. Off.

Stymer successfully used in leading mills

Stymer has proved its advantages in 115 of the principal rayon mills in the United States after full evaluation of its efficiency and economy.

Why not bring these benefits to your mill?

FOR FULL INFORMATION ABOUT STYMER . . . FILL IN AND MAIL THE HANDY COUPON

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SERVING INDUSTRY... WHICH SERVES MANKIND

MONSANTO CHEMICAL COMPANY, Textile Chemicals Dept., Desk TIT 35, Everett Station, Boston 49, Mass.

Please send me information on Stymer.

Name & Title _____

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for Quick, Thorough Removal

OF FLY AND LINT

INSTANT CONNECTION AND DISCONNECTION BY HAND—WITH NO TOOLS REQUIRED.

HANSEN

COUPLINGS AND BLOW GUNS

Socket
No. 5300

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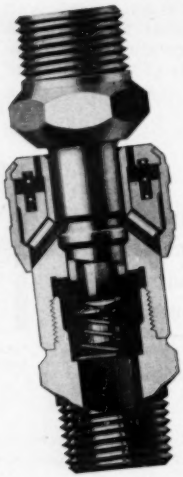
Hose Clamp
No. HC-2P19

Air Blow Gun
No. 25

10" Extension Nozzle
No. 26



● Lint and fly can be quickly removed from carding machines, spinning frames and looms through the use of Hansen quick-connective couplings and an Air Blow Gun.

By equipping conveniently located air stations with Hansen quick-connective couplings, it is a simple matter to move from station to station with a short hose and the Hansen Air Blow Gun.

To connect the air hose at any station, you merely push the coupling plug into the socket—air is instantly and automatically available at blow gun.

To disconnect, just push back sleeve on coupling socket—plug immediately releases and flow of air is shut off at station.

Change-over from air blow gun to solvent spray cleaner takes only a few seconds.

Write for catalog and details.

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These men speak your language

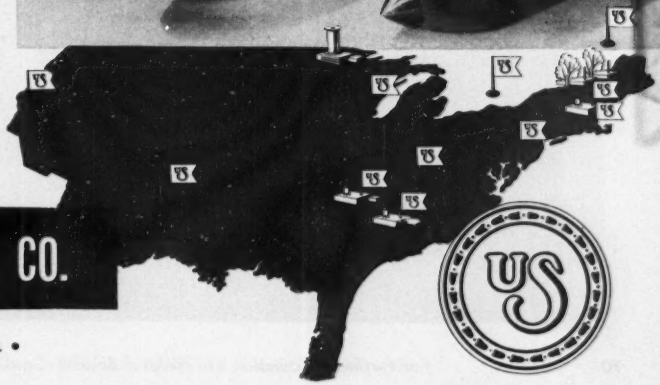
WHETHER it's the U S sales representative who calls on you, or the U S design and production engineers who back him up, you'll find they all "speak your language".

When you specify the performance standards you require, you can be sure they will be fully understood and achieved by these *specialists.* Their full-time job is delivering the best yarn carriers that money can buy, and the proof of their aptitude is the U S 93-year record of leadership.

Whether you are equipping a new mill or replacing worn out carriers, talk to a U S representative first. You'll find it pays . . . in better yarn and fabric quality, and in lower operating costs.

U S owned timber properties permit complete control of wood stock selection and every step in processing, from forest to finished products. Five manufacturing plants, North and South, provide ample facilities to produce and deliver promptly the cost-saving yarn carriers you need, in any quantity.

Anywhere in textile America, you are near the headquarters of a U S specialist in yarn carrier selection. He'll call at your request.



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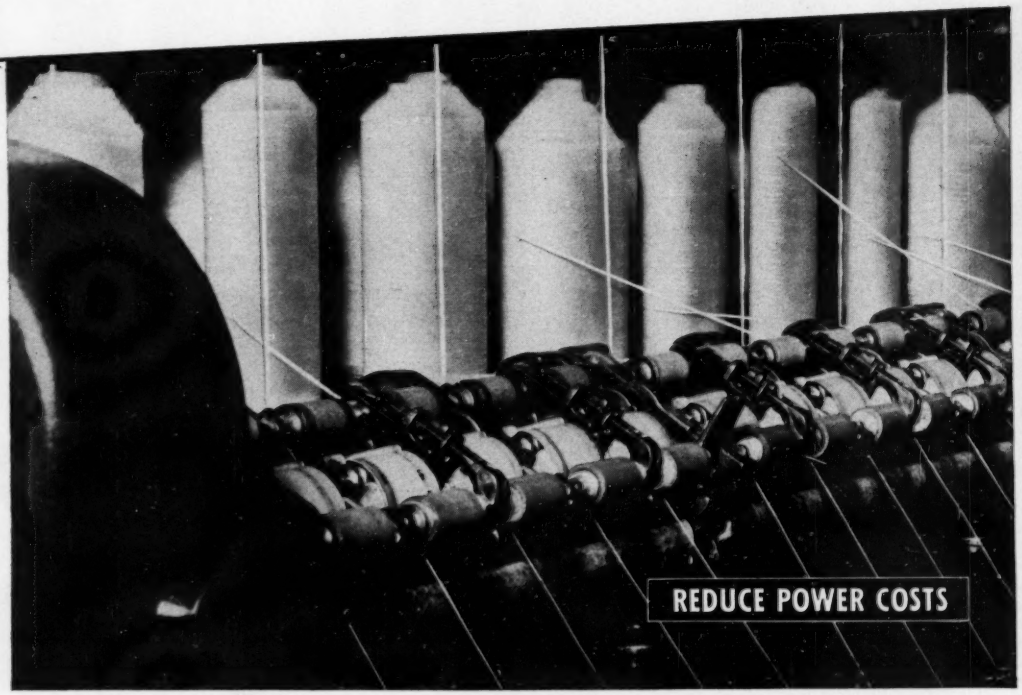
Tests Show How to CUT BOLSTER WEAR —Save Replacements



Two-year field tests show that Sinclair Compounded Lily White Oils, AX, BX, CX, cut bolster wear up to two-thirds!

This oil can thus save a lot of bolster replacements—especially important in these days of shortages. Less wear also means less spindle wobble, thus reducing power demand and thread breakage and permitting use of a larger package.

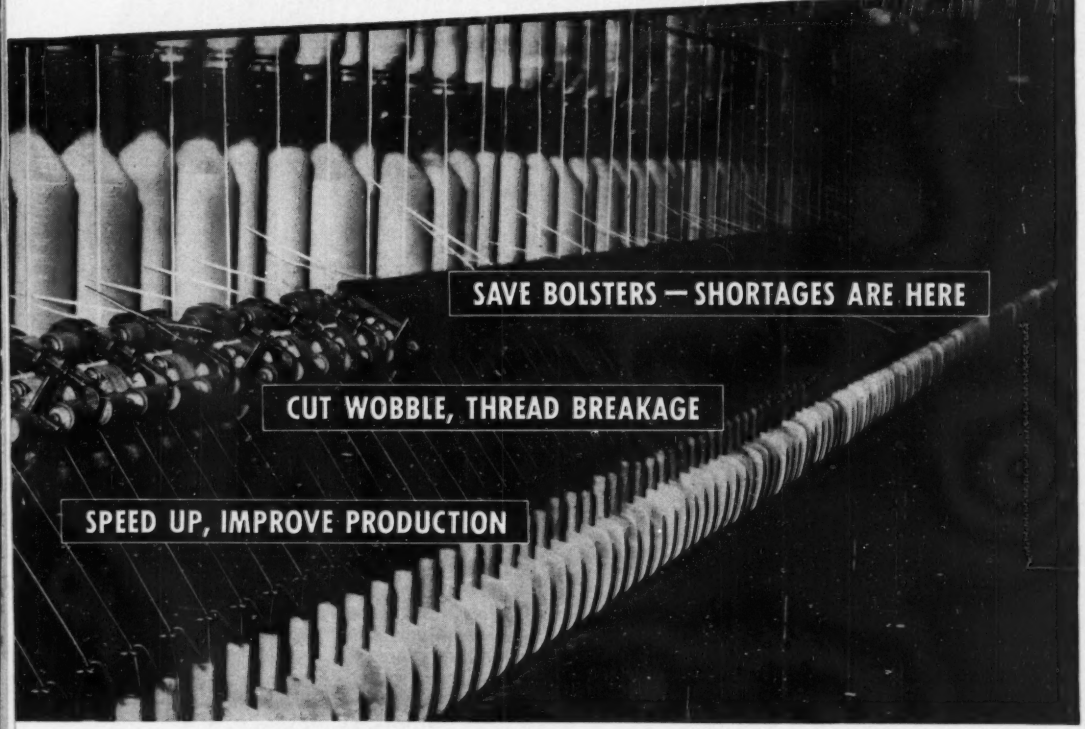
All together, these advantages make Sinclair Lily White Oils important assets to any textile mill.

2/3rds

SINCLAIR TEXTILE LUBRICANTS

Save Wear and Replacement

For lubrication counsel see your nearest Sinclair Representative or write direct to Sinclair Refining Company, 600 Fifth Avenue, New York 20, N. Y.



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Most of your control problems can be solved sucessfully with the aid of a POWERS engineer and the proper application of some of our modern products. Why not profit from our 60 years of experience? There's no obligation. Phone or write our nearest office.
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Pneumatic
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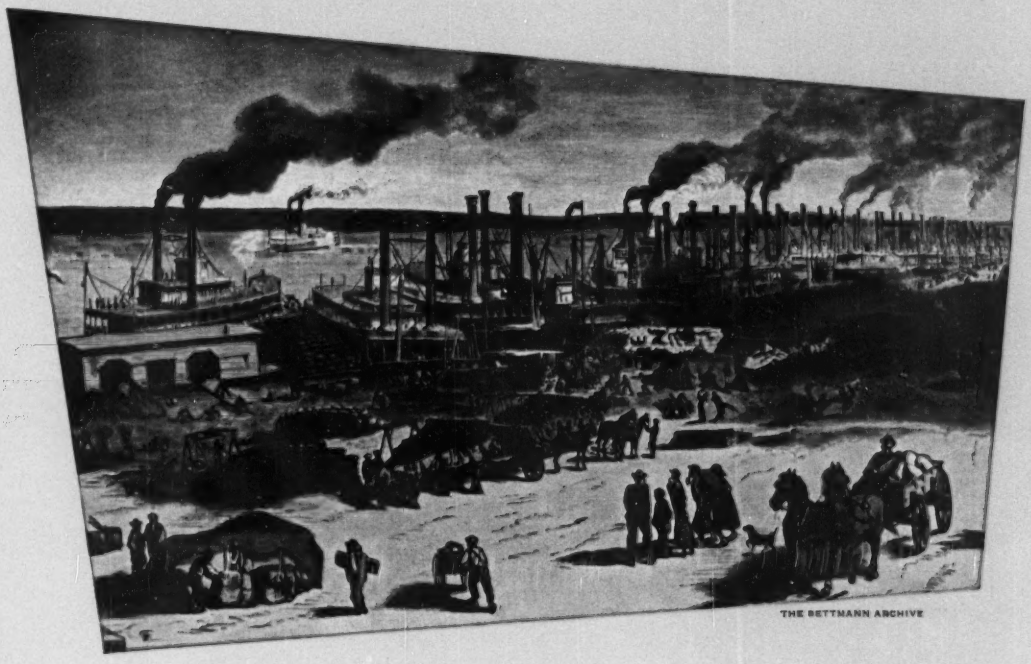
River steamers swell the volume of trade with expanding markets in the south and west.
THE ISELIN DIARY, 1871



THE BETTMANN ARCHIVE

To market, to market...

Spurred by steamboat, team and rail, the growing bustle and volume of trade in 1871 added countless financial, credit and collection details. To help manufacturers with these problems, Iselin brought a service already 63 years old . . . Today, nationwide marketing burdens you with even more routine. Iselin's service speeds turnover of your working capital, ends credit losses, frees you of unproductive details . . . Our methods are proved by time and the success of our clients. Let them help you to market successfully. Send for booklet on our Factoring service to industry.

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HFL IMPROVED SPRING SHAFT WORM AND WHEEL with Shaft Support. For Cotton and Rayon Looms

HFL IMPROVED "CLAMP TYPE" LONG BRAKE HANDLE for Woolen and Worsted Looms

HFL IMPROVED "ROLLING BOSS" DOBBY JACK for Silk, Rayon and Cotton Looms

No resting on LAURELS at LIVERMORE

JUST AS INDIVIDUAL MILL LEADERSHIP is achieved by constant improvement in fabric quality, so has LIVERMORE LEADERSHIP been built on the policy of anticipating future needs in weaving equipment.

WE ARE PROUD OF OUR PAST, proud of our 64 years of conscientious service to the textile industry. But we look to our past only for guidance in maintaining standards of engineering that will aid you in meeting today's — and tomorrow's — requirements for faster operation, fewer loom stops, quicker repairs . . . and better fabrics.

MORE THAN 2000 well-managed textile mills are benefiting daily by this Livermore policy. They are letting HFL IMPROVED LOOM PARTS help to improve their competitive fabric quality. They realize, as we do, that nothing is static about **LIVERMORE LEADERSHIP.**

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ESTABLISHED 1887

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You do less fixing

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It's Good Business to buy from Staley

"Staley had the answer to my toughest sizing problems!"

"Staley made up a special starch for our plant—solved our problem completely!"

"Our fabric weavability has improved tremendously —thanks to Staley's technical assistance!"

The consistently better performance of Staley's Textile Starches is more important to you than ever before!

In these days of swiftly changing conditions you are attempting to plan ahead to insure your mill of consistent uniform starch supply. You will discover, as scores of major mills have already done . . . that "*It's good business to buy from Staley!*" Serving the textile industry for more than 30 years, Staley has a superior line of starches for every textile need. When you order from Staley . . . you get the starch you want, when you want it and in the quantities you need. In addition, the services of Staley Starch Technicians are available to you at any time—and they do not cost you a penny! Write for details on Staley's "better business" service to textile men!

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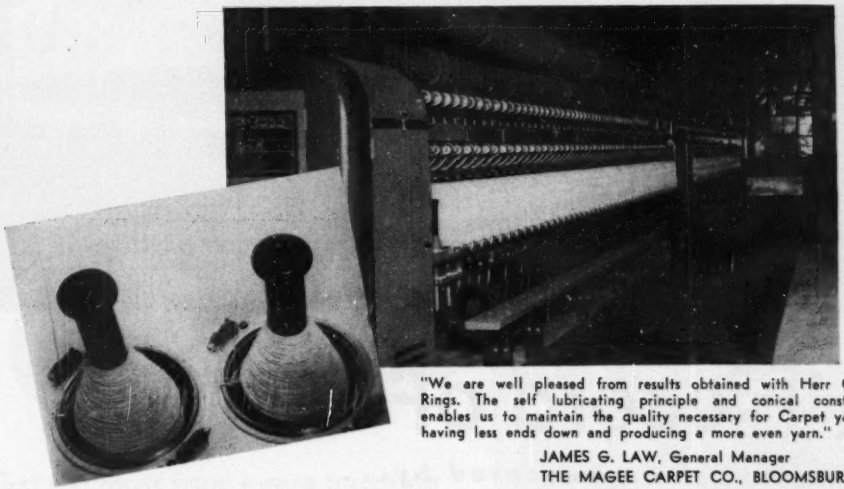
Only HERR *makes the* "CONICAL RING"

and The Magee Carpet Company is one of our many woolen and carpet yarn mill boosters

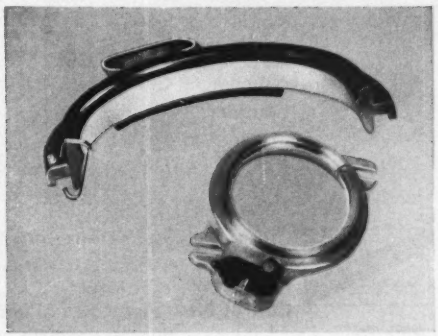


"We are well pleased from results obtained with Herr Conical Rings. The self lubricating principle and conical construction enables us to maintain the quality necessary for Carpet yarns by having less ends down and producing a more even yarn."

JAMES G. LAW, General Manager
THE MAGEE CARPET CO., BLOOMSBURG, PA.

LOOK FOR THESE ADVANTAGES WHEN YOU CHANGE TO HERR

1. *Controlled Oil Flow to Traveler*—Self-lubricating, NO rewicking, minimum oil consumption, and longer traveler life.
2. *Improved Production*—Less ends down, marked reduction in fly, less waste, less attention required and higher quality yarn produced.
3. *More Even Yarn*—The *conical* shape produces an outward and downward action with the traveler riding on the top and side face of the ring. Can pack a firm bobbin with less traveler weight.
4. *Durable Construction*—Drop forged steel used. Mounted in special die-cast holders to accommodate any spinning and twisting rail condition.



Also used for Spinning and Twisting of Synthetic and Blended Yarns

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HERE are gas and electric trucks that will help gear your plant for *all-out* efficiency!

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FASTER REPLACEMENT
STRAIGHTER WARPS
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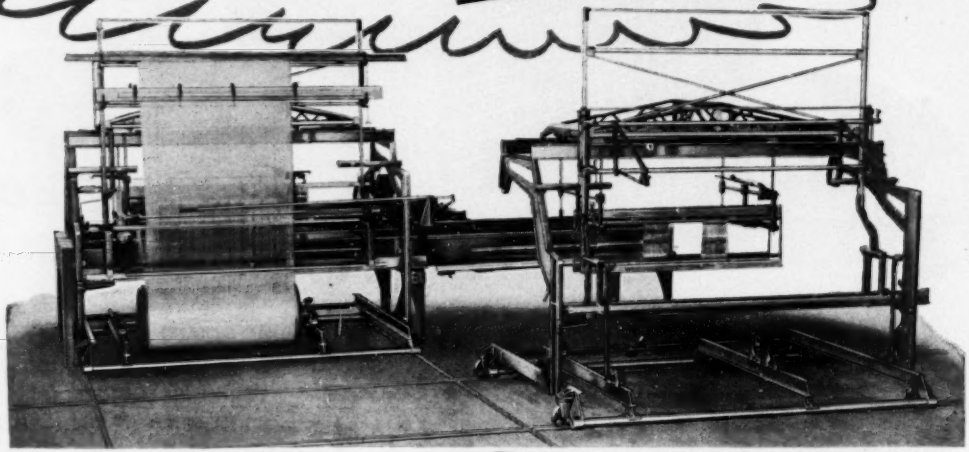

BARBER-COLMAN MODEL G *Warp Drawing Machine*

The Model "G" Barber-Colman Warp Drawing Machine is designed to be used in a wide variety of weaving mills and is particularly valuable to manufacturers of dobby fabrics, shirtings, suitings, and dress goods. This machine is also extremely useful for mills weaving broadcloth, ginghams, fancy rayons and cotton specialties and sheeting. Mills that use up to 20 or 24 harness shafts in the construction of fabrics and 8 or less banks of warp stop motion, where quick change-over in style and pattern is necessary, will find this model the answer to their warp replacement problem.

Field reports show up to 3000 Ends per Hour
Draws warps from 10 to 300 ends per inch
Draws from flat sheet or 1 x 1 lease
Draws from single or double beam, or split sheet
Draws 1 x 1 lease in double beam or split sheet

Warp threads are drawn through drop wires, heddles and reed
IN ONE OPERATION
from any predetermined draft

HARNESS FRAME LENGTHS	
Size of Machine	Maximum Overall Length of Harness
48	54"
66	72"
86	92"

MODEL "G" MACHINE CAPACITIES
The Model "G" can be furnished in the following capacities at no difference in cost:
Reed, 20 Harness, 8 Banks of Drop Wires
Reed, 22 Harness, 6 Banks of Drop Wires
Reed, 24 Harness, 4 Banks of Drop Wires
DROP WIRE CAPACITY: 9/32" through 3/4" wide

WILL DRAW

- Cotton Yarns
- Filament Yarns
- Spun Yarns
- Woolens and Worsteds
- Monofilaments

AUTOMATIC SPOOLERS • SUPER-SPEED WARPERS • WARP TYING MACHINES • DRAWING-IN MACHINES

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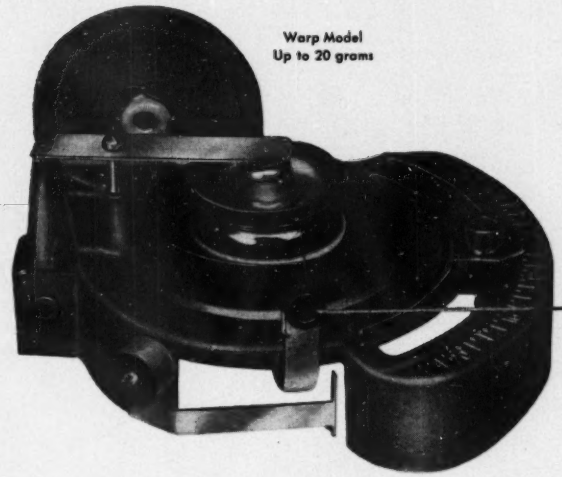


CUT SPOILAGE

with Kidde Tension Compensators

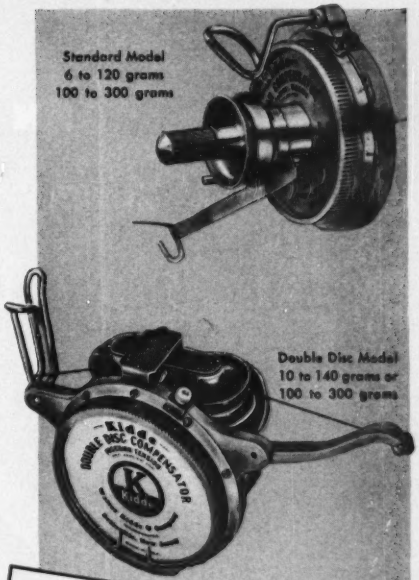
WHY take chances on spoilage losses from uneven tensions? Kidde Compensators are now being used in more than 500 leading mills to meet varied tension problems. There are three models now available.

1. ***Warp Model.*** This produces smooth, level beams by maintaining predetermined tensions uniformly on all warp ends. Troublesome slack and tight ends are eliminated. By using a Kidde stop motion, lost ends can be controlled.

2. ***Standard Model.*** This compensator has proved highly successful for moderate speeds and tensions. It is recommended for use at speeds up to 300 yards per minute. Use it in quilling nylons and rayons . . . in warping rubber yarns . . . in winding narrow fabric bobbins.

3. ***Double Disc Model.*** This Kidde Model can maintain constant tension at speeds up to 1000 yards per minute. It is particularly suited for tender, high twist yarns and is available in two types—10 to 140 grams and 100 to 300 grams.

Find out how these Kidde tension compensators can solve your tension problems. Fill in and send the coupon below



Walter Kidde & Company, Inc.
1090 Main Street, Belleville 9, N. J.

Walter Kidde & Company of Canada, Ltd., Montreal, P. Q.

Kidde

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Gentlemen:
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Acetate Dyes . . . for dyeing and printing acetate, nylon and other synthetic fibers.

Formaldehyde Black . . . for dyeing cotton and particularly rayon for pure white discharge styles.

Naphthols and Bases . . . for dyeing cotton and other fabrics.

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Arigen Dyes . . . stabilized azoic colors for printing cotton and other fabrics. Recommended for printing in conjunction with Aridye Pigment Colors to provide a wide range of color combinations not otherwise readily or economically obtained.

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Powder and Dispersions . . . fungicides for use on a wide range of woven and non-woven textiles to prevent or retard mildew and rot for both military and civilian requirements.

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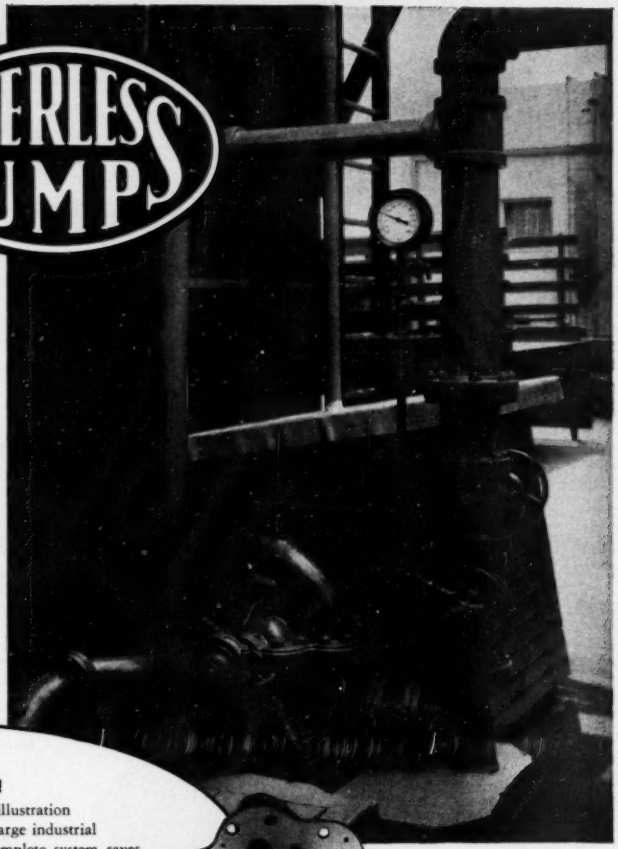
PEERLESS Type TU

MULTI-STAGE PUMPS for HOT and COLD LIQUIDS

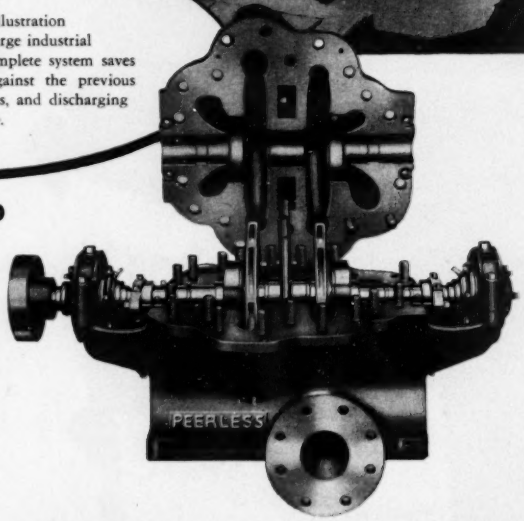
A PLUS in Performance without a premium in price

When moderate capacities and high heads are involved in handling cooling tower water, boiler feed applications, and process liquids, Peerless Type TU pumps will exactly meet your needs. They provide capacities from 50 to 2,500 gpm, head ranges from 250 to 1600 feet and discharge sizes up to 10 inches. The low loop cross-over is cast integral with the top half of the pump case in sizes 4 inches and smaller. Excellent efficiencies and a great number of superior design features that effect long life with minimum downtime provide a performance plus at no extra cost.



MAKING RECORDS!

The Peerless Type TU pump in the illustration operates on a cooling tower system for a large industrial plant. According to their engineers, this complete system saves them over $550.00 every month, as against the previous method of using water from city mains, and discharging into the sewers after one use.



DEPENDABLE, DURABLE AND RUGGED DESIGN AND CONSTRUCTION . . .

Here are a few features of Type TU construction:

Equipped with duplex angular contact thrust bearings, water cooled bearing housings, heavy stiff case rings, sleeves locked against impeller hubs, in-and-out cooling and sealing connections at stuffing box.

High pressure stuffing box on these pumps is under one stage pressure only, regardless of the net pressure developed by the pump.

Spacer bushings between stages are serrated with grooves throughout its length, are longer than competitive pumps, thus making an effective seal between stage pressures.

The Peerless Type TU pump is described in Bulletin B-301. Write for your copy today.

PEERLESS PUMP DIVISION
FOOD MACHINERY AND CHEMICAL CORPORATION
Address inquiries to Factories at:
Los Angeles 31, California and Indianapolis 8, Indiana
Offices: New York, Chicago, St. Louis, Atlanta; Dallas, Plainview and Lubbock, Texas; Fresno; Los Angeles; Phoenix; Albuquerque, New Mexico.

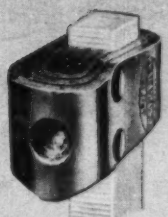
Follow-thru with Leather

Cut Shuttle Cost, Stop Kinky Filling Increase Profits with Graton & Knight TEXTILE LEATHERS

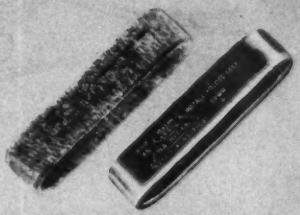
Graton & Knight Textile Leathers present an opportunity for mill men everywhere to secure the many benefits which only leather can give. The line includes 25 important types for Draper Looms; 33 for Crompton & Knowles Looms. Each is an *engineered* product, it's quality controlled from green hide to the finished part: accurate — dependable — economical.

* * *

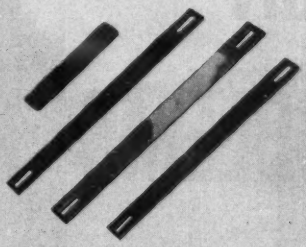
Be sure to see the G&K-DIXIE salesman, who has the complete story of why it will pay you to *Follow-thru* with the famous G&K-DIXIE Orange Line Loom Leathers and G&K Aprons and Tapes.



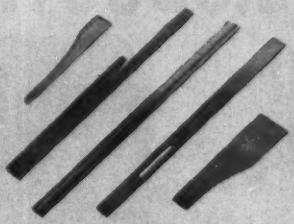
Pickmaster® Pickers do not bounce the shuttle, or cause the shuttle spur to heat up. Promote smooth shuttle flight and accurate boxing.



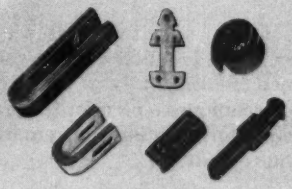
Endless Check Straps provide controlled cushioning action for the picker stick. They are positioned perfectly for each pick, and conform to the angle of the picker stick at all points.



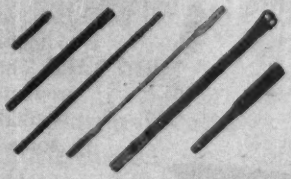
Straight Check Straps with low permanent stretch and high resiliency promote smooth shuttle throw. Built to flex uniformly and outlive ordinary straight check straps.



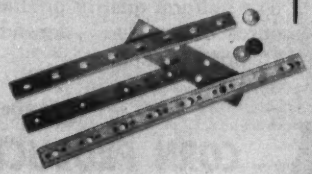
Boxmaster Binder and Box Plate Leathers of special HAIRITAN® Leather with smooth, catch-free edges and deep, velvety surface. Need no waxes or fillers — do not "bleed" and discolor the filling yarn.



Lug Straps, Lug Hold-up Straps. Tough and resilient, these leathers are built to stand up to gruelling punching and whipping every second for longer periods than you imagine possible.



Harness Leathers, Heel and Jack Straps, give smooth lifting action — stand up under jolting and jerking. Their low permanent stretch retains correct lengths — their toughness resists tearing.



Spindle Bumper Straps take a beating and come back for more. Their long-life resiliency and ruggedness mean long dependable service. Patented SPIN-TEX 3-ply strap has tough fabric insert.

100 YEARS OF SERVICE TO INDUSTRY

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GRATON & KNIGHT COMPANY, WORCESTER, MASS. • DIXIE LEATHER CORPORATION, ALBANY, GEORGIA *Affiliate*

PRODUCTION PROBLEMS

got you up a tree?

● The function of our Technical Service Department is to help solve various production problems in the field. These men are constantly working with new products and techniques—perhaps this experience would be helpful in smoothing out production sore spots in your operation.

Our basic, continuing research in starch chemistry is unsurpassed . . . under the direction of the foremost research men in this field.

Make the most of these facilities . . . no obligation, of course.

For uniform quality products . . . for a reliable source of supply . . . depend on Corn Products Refining Company.

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write to

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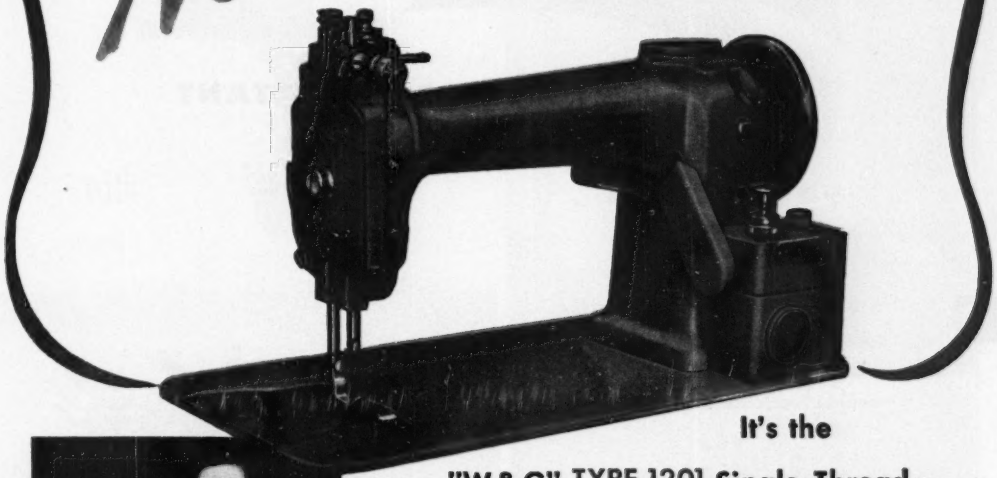
★ 50% FASTER

★ AUTOMATICALLY LUBRICATED

★ EASIER TO OPERATE AND MAINTAIN



The Type 1201 single-thread chainstitch machine can be mounted flush with the table top — or on a sub-base (as above) which raises the work surface about three inches above the table top.

It's the "W&G" TYPE 1201 Single-Thread Chainstitch Machine

The "W&G" 1201 represents a radical departure from conventional chainstitch machine design, incorporating the many service-proved advantages of the "W&G" high speed Locksmith machine.

Lubrication is *fully automatic*. Work space is much larger and roomier. Threading and stitch regulation are easier. And operating speeds of up to 4500 stitches per minute are entirely practical where conditions permit.

Type 1201 is equipped with an exclusive tensioning device which measures and mechanically pulls off from the cone, the exact amount of thread required for each stitch. The length and tension of the stitch can be readily adjusted by the operator.

If you've been looking for ways to speed up production of your chainstitch operations, it will pay you to look into this completely new Type 1201 machine. It's ideal for seaming or hemming neckwear, umbrellas, etc. — for sewing facings and bindings on knitwear — for label sewing on all kinds of garments.

For the *complete* story, simply fill out and mail the coupon below.

WILLCOX & GIBBS
Sewing Machine Co.

214 West 39th St., New York 18, N.Y.

Gentlemen:
Please send me a free copy of Bulletin No. 941, on the new Type 1201 chainstitch machine.

WILLCOX & GIBBS Sewing Machine Company
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COMPANY .....

ADDRESS .....

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WILDMAN 30" INTERLOCK MACHINE

The Answer IS "YES"

TO THESE IMPORTANT

PRODUCTION QUESTIONS

Q Is the Wildman Interlock Machine adaptable to sportswear, underwear, dress fabrics and outerwear production?

YES

Q Is this machine's special size frame built to handle exceptionally wide fabric?

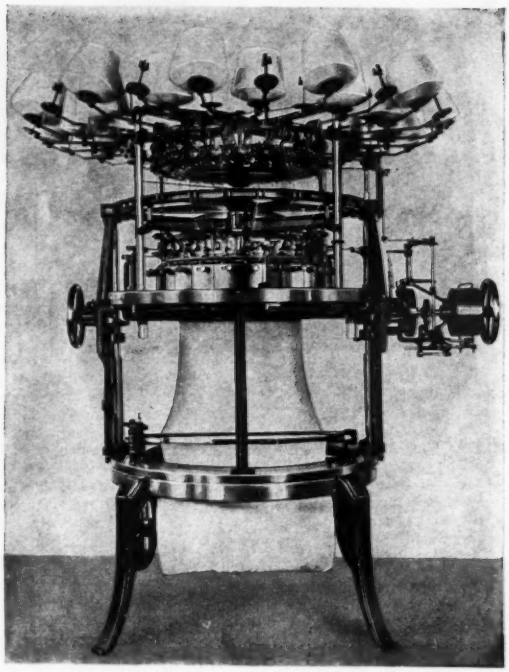
YES

Q Is the machine made in the popular sizes 26" and 30"?

YES

Q Is it furnished in all cuts up to 24 needles per inch?

YES



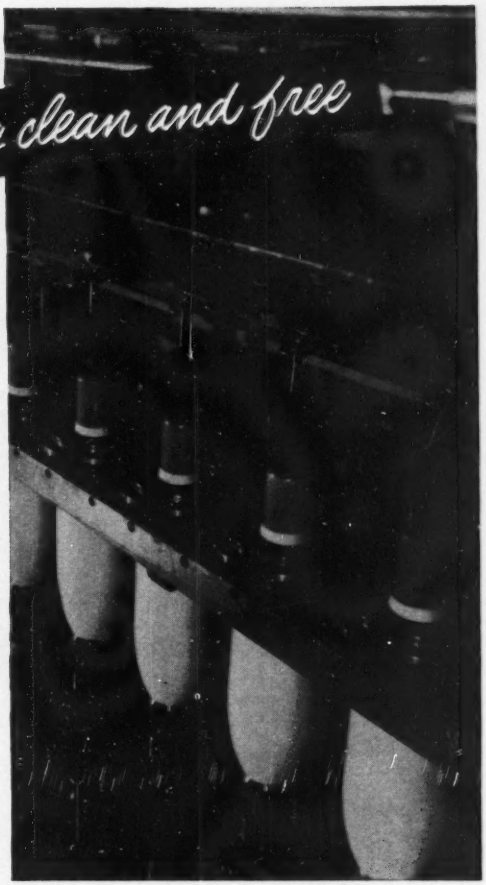
WILDMAN MFG. CO., NORRISTOWN, PA.

Keep them spinning clean and free

with

Gulfspin

an outstanding new oil
that reduces friction,
wear, and cleaning costs



Gulfspin keeps spindles remarkably clean—much cleaner than ordinary spindle oils. Here's why: Gulfspin is not only highly resistant to the formation of sludge but also has the remarkable ability to prevent sludge from depositing on blades and bolsters. Result: reduced cleaning costs and end breakage.

Gulfspin has excellent load carrying characteristics which insure against excessive wear in cast iron bolsters. This means freedom from spindle wobble and lower maintenance expense.

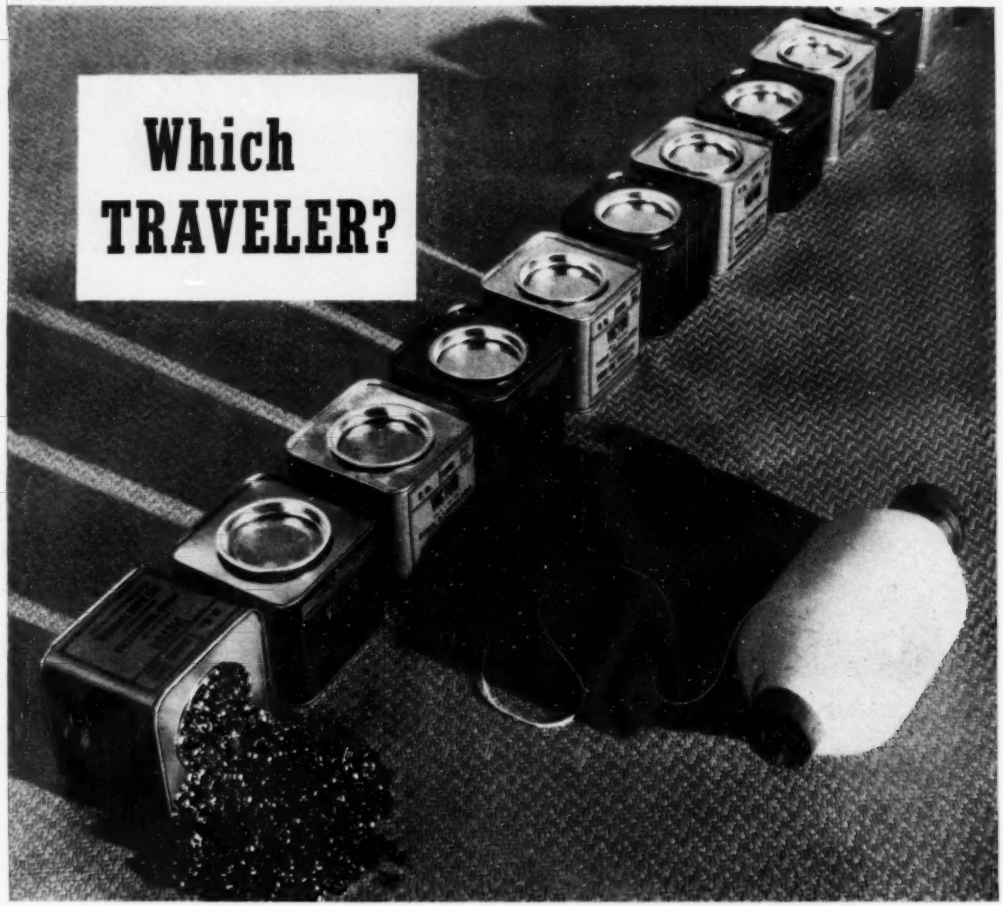
This quality oil helps reduce starting torque in spindles, and it does not increase in viscosity even after long service. Thus power consumption is kept at much lower levels than are possible with ordinary spindle oils. And it helps protect spindle parts against rust.

Users of Gulfspin report a complete absence of sludge deposits and absolutely no increase in power consumption after months of service. See for yourself on your frames — that this new spindle oil is better in every way. Write, wire, or phone your nearest Gulf office and ask a Gulf Lubrication Engineer to call.

Gulf Oil Corporation · Gulf Refining Company

GULF BUILDING, PITTSBURGH, PA.

FIFTY YEARS OF SERVICE
1901 GULF 1951
PETROLEUM AND ITS PRODUCTS



NO two fibers run exactly alike. For example, a 20's synthetic or blend yarn requires a traveler of a different size and type than that used in running cotton yarn of the same number, for best results in spinning.

"Guesswork" and haphazard probing to find the right traveler uses up valuable time, puts you "on the spot".

If your ends down are excessive, if your quality and production are off, make the one smart move that has helped so many mills gain greater productivity. Talk over your trouble with a Victor Service Engineer.

Mill-trained, every Victor Service Engineer is a *specialist* in traveler applications, has often helped clear up the most puzzling spinning and twisting problems. Whether you are running conventional fibers, synthetics, or blends — he can often make other valuable suggestions for improving yarn quality and production.

Write, wire or phone our nearest Victor office for prompt, friendly service. There's no obligation.

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VICTOR Ring Travelers

VICTOR RING TRAVELER COMPANY

PROVIDENCE, R. I. . . . . 20 Mathewson St. . . . . Tel. Dexter 1-0737

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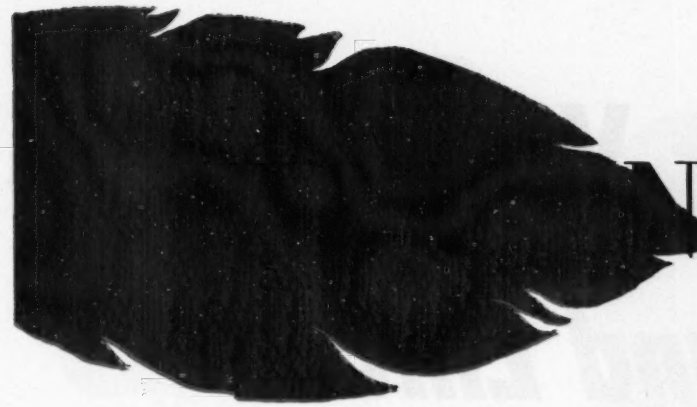

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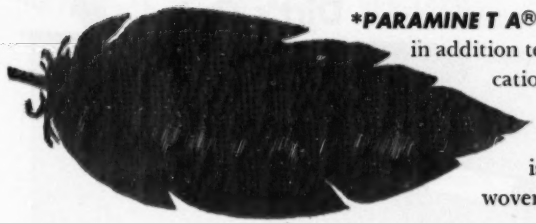
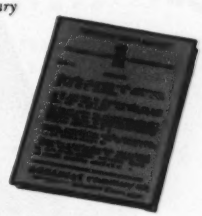
for durable softness and added sales appeal...



***PARAMINE T A® produces a so... ...irn** in addition to a pleasing surface finish. An efficient cationic product, it imparts a durable, long-lasting, full hand to cotton and rayon fabrics, woolen cloth and hosiery. It is highly effective on all styles of woven and knitted goods, including tricot and glove fabrics.

PARAMINE T A
is excellent for finishing cotton goods, plain dyed and printed in combination with gums, starches and similar products. On prints of very open design and blotch work, it gives a more even hand from selvedge to selvedge, and a smooth feel unobtainable with ordinary softeners. Write for details.



Arkansas Co., Inc.
184 Foundry St.
Newark, N. J.

Gentlemen:
Please send me, without obligation:

- ☐ Full details on PARAMINE T A
- ☐ Sample and application procedure
- ☐ Details of mill demonstration

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ADDRESS_____

STATE_____

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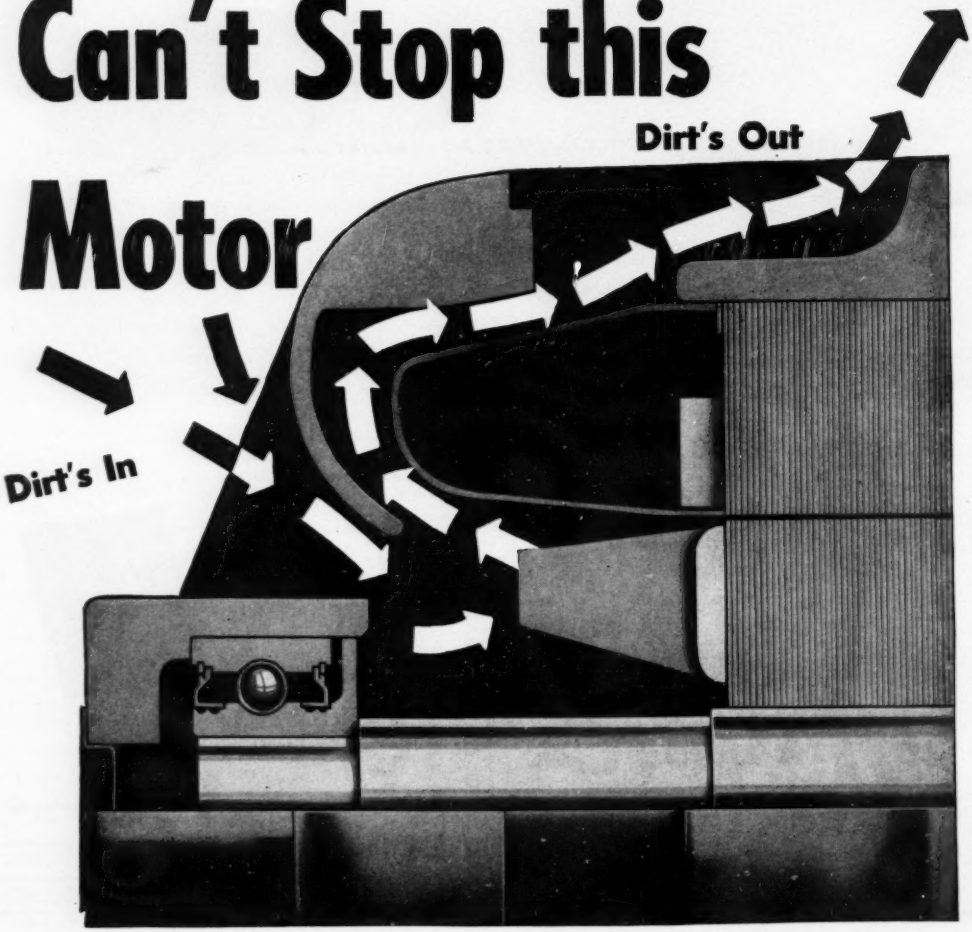
Arkansas Co. INC.

MANUFACTURERS OF INDUSTRIAL CHEMICALS FOR OVER 45 YEARS
NEWARK, NEW JERSEY

Here's Why *Dirt and Lint* Can't Stop this Motor



Quick-Clean TEXTILE MOTOR

WIDE OPEN DESIGN AND POWERFUL FANS SWEEP LINT AND DIRT RIGHT OUT OF *Quick-Clean* MOTOR!

YOU HAVE NO MOTOR PROBLEM from lint-laden atmospheres when you use *Quick-Clean* textile motors. *Quick-Clean* motors have wide open passages for cooling air and powerful fans to sweep lint and dirt right out of the motor. Inside surfaces are smooth and hard so lint cannot lodge anywhere. Air passages are shaped for smooth air flow.

Quick-Clean motors also save you money with sealed bearings which eliminate usual expensive bearing maintenance procedures. Grease or oil cannot leak from the bearings to soil materials or gather lint and dirt. Lint and dirt cannot enter the bearing. Ask your nearest Allis-Chalmers Sales Office about the *Quick-Clean* textile motor Or write for the bulletin shown below which describes it completely.

MATCH QUICK-CLEAN MOTORS WITH A-C STARTERS!

This control was developed for dependable, safe starting of *Quick-Clean* motors. Other Allis-Chalmers motor control will give you dependable operation of all electrical equipment in your plant. Competent application engineers are always available through your nearby Allis-Chalmers Sales Office. A-3471

Allis-Chalmers
Milwaukee 1, Wis.

Quick-Clean, Texrope and Vari-Pitch are Allis-Chalmers trademarks.

Send for Free Engineering Literature

Quick-Clean Textile Motors	51B6055	Dielectric Heater	15B6431
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COMPLETE SERVICE — from power line to machine

ALLIS-CHALMERS

Originator of the Multiple V-Belt Drive for the Textile Industry

Marquette ROLLER BEARING SPINDLES

WITH FULL-FLOATING FOOTSTEP BEARING....

For Cotton, Rayon, Nylon, Wool, Worsted

• A series of tests in this mill have proved that the 12,028 Marquette Twister Spindles equipped with exclusive internal brake *increased production by more than 50 per cent.* That's because these spindles are running at high speeds with heavy packages. They require no more power than the spindles that were replaced.

You too can get greater production and reduce your costs by using Marquette Roller Bearing Spindles. *Let us prove this through a test installation.* Contact our home office or one of our representatives for full details.

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Textile Industries
Vol. 115 • Oct. 1951

News in Brief

Mills to Offer Student Loans. Rock Hill (S. C.) textile plants are considering a plan to establish a loan fund for students who wish to further their training and education in some phase of textile plant work.

Date Set for STA Meet. The board of governors of the Southern Textile Association has decided to hold the 1952 convention June 12-14 at the Ocean Forest Hotel, Myrtle Beach, S. C.

Research Report on Cotton. A research report on "Fibre Properties, Spinning Performance and Related Information for Cotton Grown in The Lower Rio Grande Valley and Coastal Bend of Texas" has been published and is available upon request from Cotton Merchandising Research, The University of Texas, Box 1645, University Station, Austin, Texas. Also available are three bulletins on the 1951 cotton crop showing varieties planted and fiber properties on specific locations.

New Chairman of CTMC. Charles A. Cannon, president of Cannon Mills Co., Kannapolis, N. C., has been succeeded by Ellison S. McKissick, president of Alice Manufacturing Co., Easley, S. C., as chairman of the Cotton Textile Mobilization Committee. Mr. Cannon will continue as a member of the committee, which he has headed since its establishment shortly after the outbreak of the Korean war.

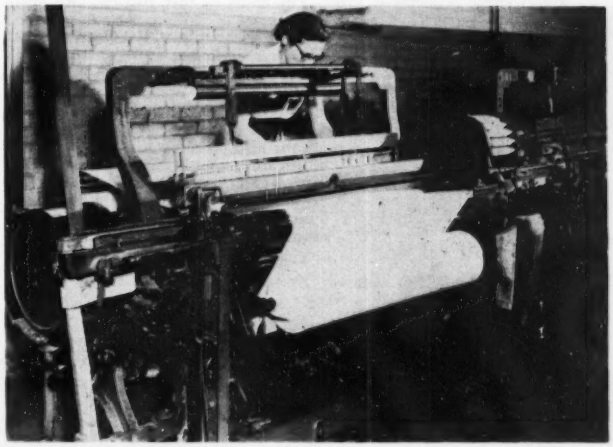
Colored Spots Evaluated. In one mill colored spots in goods are thought to be lipstick or washable crayon which has come in contact with oil. Tar on some goods was found to be coming from a leaking roof.

Isotopes in Wool Tests. Isotopes from Britain's atomic pile are used in carefully controlled experiments by the Wool Industries Research Association, according to The Wool Bureau. The isotopes are giving

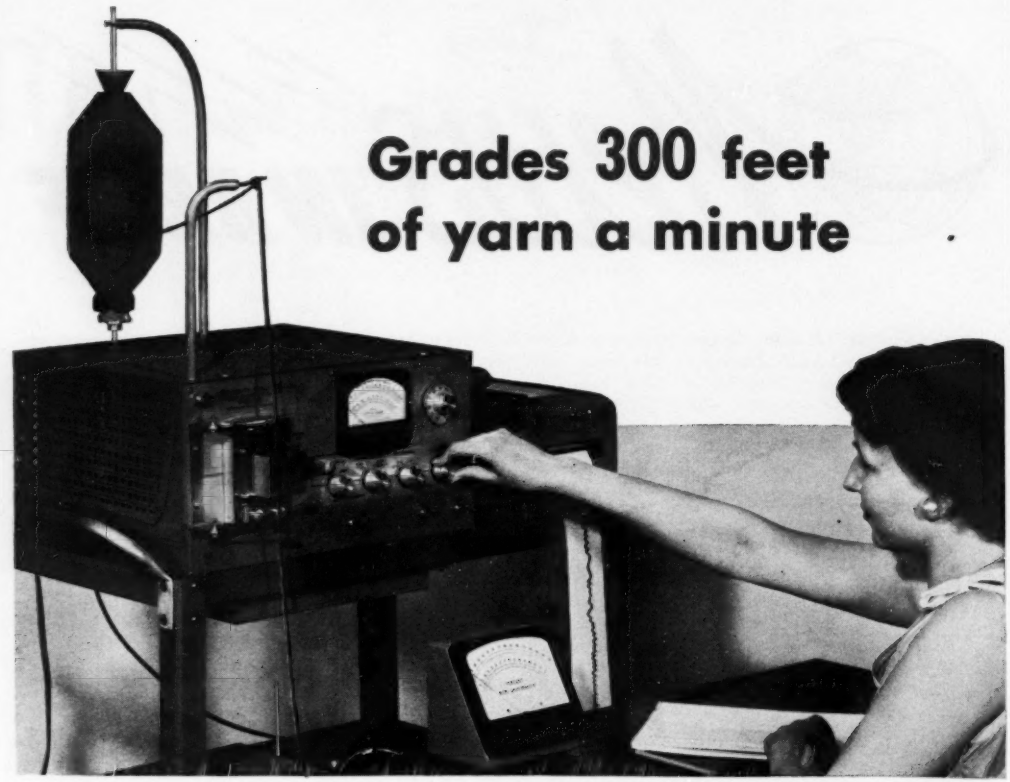
MODEL-A VERSION OF FIRST AUTOMATIC LOOM TO BE PRESERVED IN THE OLD SLATER MILL

Still in operating condition, the Model-A loom shown in the accompanying illustration is an original version of the first automatic loom. Few others are known to be in existence. One of the looms is on display at the Smithsonian Institute, Washington, and a companion loom to the one shown in the illustration has been donated by the Henrietta Mills of Caroleen, N. C., to the museum being assembled in the Old Slater Mill at Pawtucket, R. I.

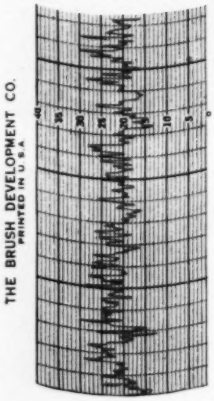
Recently traced records show that the machine was built in 1896 by Draper Corporation and was shipped that year to Henrietta Mills. The loom was part of Draper's order No. 33 calling for 100 such looms—among the first automatics ever made. As years passed and newer models were introduced, Draper's practice was to take in old looms at a substantial credit. For this reason most Model-A's disappeared, but a few managed to escape the scrap pile.



Grades 300 feet of yarn a minute



In addition to yarn, speedy checks can also be made on roving (shown above), and sliver.



THE BRUSH TEXTILE UNIFORMITY ANALYZER provides you with a production tool for checking and grading the uniformity of yarn, roving, or sliver—*at high speeds.* Originally designed by the Institute of Textile Technology, the Uniformity Analyzer was further developed by The Brush Development Company.

The chart at left records the non-uniformity of a 25-count cotton yarn, checked at the rate of 300 feet a minute. The chart indicates 49.9% gross deviation from nominal weight per unit length. A complete answer, in writing—obtained in a hurry!

To an experienced operator, the graphs also point to the cause of non-uniformity, whether in the sliver, roving, or spinning stage. And in addition to the graph, the operator has a meter, which indicates average wool or cotton count or percentage non-uniformity.

The Analyzer is calibrated for cotton or wool, as specified, and can be adapted for other materials, including Nylon, rayon, other plastics. The separate heads for yarn, roving and sliver can be interchanged easily. The unit is complete, includes measuring heads for yarn, roving and sliver; yarn drive; handling fixtures.

Take the first step now for more efficient quality control—write for complete information. The Brush Development Company, Dept. T-15, 3405 Perkins Avenue, Cleveland 14, Ohio, U. S. A. *Canadian Representatives:* A. C. Wickman (Canada) Limited, P. O. Box 9, Station N, Toronto 14, Ontario.

THE *Brush* DEVELOPMENT COMPANY

Put it in writing with a **BRUSH RECORDING ANALYZER**

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INDUSTRY ACCEPTS THE CHALLENGE

The men and women of American industry have quickly accepted the challenge to meet the quotas set for the Armed Forces Blood Donor Program, according to information received from the Office of the Secretary of Defense.

Even before the campaign was officially launched, pledges were pouring in from major labor unions and manufacturing plants throughout the nation, the announcement said.

When the Department of Defense reported to industry on the depletion of the blood bank and the current needs for military purposes, the response was immediate and plans were made to accelerate existing blood donor campaigns and to institute new programs [illegible].

American industry—[illegible] management and labor—will be responsible for contributing a major share of the 300,000 pints of blood which has been set as the goal in the program, each month.

Representatives of labor and management in all sections of the country have stressed the fact that the Armed Forces Blood Donor Program offers an excellent opportunity for the men and women in industry to show the unity behind our "Defenders of Freedom."

News in Brief

scientists new leads on the secrets of the structure of the wool substance keratin, the physical chemistry involved in dyeing processes, and the wool fiber's ability to absorb other chemical substances into its inner structure.

Spinner-Breeder Conference. The eighth annual Spinner-Breeder Conference is tentatively scheduled to be held the last week in November or the first week of December, according to B. F. Smith, Delta Council, Stoneville, Miss., the sponsoring organization.

Increases in Rail Freight Costs. Substantial increases in rail freight costs from the mills to New York, Chicago, and other points through the North and East will shortly impose a considerable burden on the trade, according to Thomas Smith, chairman of the Traffic Group of The Association of Cotton Textile Merchants of New York. The charges involve higher rail freight rates plus new pick-up and delivery costs affecting store door delivery. They will add substantially to the freight bills of most buyers of cotton, rayon, and other textiles. On a typical cotton textile item the total increase may run to 30 per cent from rates earlier this year. Mills also are facing a higher freight bill on supplies and materials inbound to them.

First Kenaf Harvest. A million and a half pounds of kenaf, the first commercial planting of this jute substitute in the U. S., was harvested nearly a month early. Successful cultivation combined with ideal soil conditions produced an abundant and rapidly maturing crop throughout the 700 acres planted near Belle Glade, Fla. The entire crop has been committed to the U. S. government.

ITT Machine Used in NCC Tests. The new Picker Lap Uniformity Meter, developed by the Institute of Textile Technology, was used at Clemson College, S. C., during recent tests to measure the uniformity of mill processed picker laps in the Cotton Quality Improvement Tests sponsored by the National Cotton Council of America. The new lap meter measured inch-by-inch variations in picker laps.

Austria Needs Knitting Machines. Joseph Buczolich of Vienna, Austrian agent for Scott & Williams, Inc., has stated that there is a sizeable market in Austria for American circular knitting machines of the Komet type, particularly wrap machines. The Austrian circular knitting industry is hampered, according to Buczolich, by machines which have been in

GOOD STOCKHOLDER REPORTS QUALIFY MANY COMPANIES FOR "HIGHEST MERIT" CITATIONS

From the 5,000 corporation annual reports for 1950 rated in the eleventh annual Survey, conducted by Weston Smith of Financial World, the following companies have qualified for "Highest Merit" citations:

Alabama Mills
American Woolen
Avondale Mills
Bates Manufacturing
Beaunit Mills, Inc.
Belding-Corticelli
Bruck Mills, Ltd.
Collins & Aikman
Crompton & Knowles
Dominion Textile
Graniteville Company
M. Lowenstein
Naumkeag Steam Cotton
Pacific Mills
Pepperell Mfg. Co.
Plymouth Cordage Co.
Reeves Brothers, Inc.
Riegel Textile Corp.
Texas Textile Mills
Textron, Inc.
U. S. Finishing Co.
Utica Mohawk Cotton Mills
Wamsutta Mills
American Enka
American Yarn & Processing Co.
American Viscose
Celanese Corp. of America
Industrial Rayon Corp.
Bigelow-Sanford
Firth Carpet Co.
Lees (James) & Sons
Smith (Alex.) Inc.

The stockholder reports of the foregoing companies have become candidates for the final judging, and one will be selected for a "Best of Industry" award and presented with a bronze "Oscar of Industry" at the Financial World Annual Report Awards Banquet on Monday, October 29, 1951, in the grand ballroom of the Hotel Statler in New York. A year ago the 1949 annual report of Botany Mills, Inc., won the trophy for the best report in weaving mills classification.

SERVING THE TEXTILE INDUSTRY SINCE 1899

SONOCO

Precision Paper Products

A cone to fit the yarn – !

If it can be wound on a cone—

If it can be delivered from a cone—

SONOCO will find the best way. For over 50 years SONOCO has been "research experts" to the textile industry on yarn packaging problems.

SONOCO
MOVES THE WORLD
PAPER CARRIERS
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SONOCO PRODUCTS COMPANY

BRANTFORD ONT. | HARTSVILLE S. C. | MYSTIC CONN.

DEPENDABLE SOURCE OF SUPPLY

COTTON VARIETY MAP

This map is based on data from the USDA's Fiber and Spinning Test Results for Some Cotton Varieties Grown by Selected Cotton Improvement Groups, Crop of 1950. A consolidation of variety maps, covering all cotton producing states, may be obtained on request from the National Cotton Council, P. O. Box 18, Memphis 1, Tenn.

The accompanying map shows the name of the variety and the town or towns at which that variety was sampled for purposes of the USDA study. Listed on the same line with the name of the town is fiber and spinning data in the following order: (1) fineness of fiber, (2) strength of fiber in thousands of pounds, (3) staple length in thirty-seconds of an inch, (4) number of neps in 100 square inches of card web, and (5) yarn strength index. In most instances the values given for the five properties are the averages for cotton picked in early season, mid-season, and late season.

service for many years and need to be replaced.

Award for Fabric Versatility. Hess Brothers of Allentown, Pa., will give an award to the manufacturer of the fabric which can best be used in more than one way. The award will be presented sometime in October and is intended to encourage manufacturers to create fabrics which will serve more than one purpose.

French Study U. S. Dyeing Methods. Through on-the-spot observation of American high-productivity methods, thirteen dyeing and finishing specialists from the French textile industry expect to gain information in several phases of their industry. The information will be disseminated throughout the industry in France. The French team was brought to this country under the technical assistance program of the ECA.

News in Brief

International Standards. Two important recommendations for international use were approved by the Council of the International Organization for Standardization (ISO) at a meeting in Geneva, Switzerland, July 2-5. The recommendations include: (1) The designation of twist for textile yarns as either "S" or "Z" depending upon the direction of turns of the yarns. (2) The standard reference temperature of 20 degrees Centigrade (68 degrees Fahrenheit) for the measurement of mechanical gauges. The second recommendation concerns the reference temperature for limit gauges as used for inspection of component parts. The parts and the gauges change in size with variations in temperature, and it is necessary to have agreement on the temperature at which their sizes will be acceptable.

Refrigerated Textiles. Two thirds of all major new textile industry air conditioning installations sold by Carrier Corporation, since the beginning of 1950, have involved refrigeration as well as humidifying equipment.

Customer Protection. To protect their customers in the circular knitting industry from possible losses in production due to differences in the manufacture of repair parts, Scott & Williams, Inc., is now placing on all parts packages shipped from the factory a large red label specifying that the enclosed parts are genuine Scott & Williams repair parts. A similar label is also enclosed with the parts.

Instrument Records Package Treatment. Impact-O-Graph, an impact recorder contained in a 9″ x 9″ x 5″ metal case, is being tested by the Air Materiel Command's Supply Division to determine where and when packages and their contents are damaged in shipment. By scanning the recorder's wax-coated tape after deliv-

(*Continued on page 237*)

BRINTON

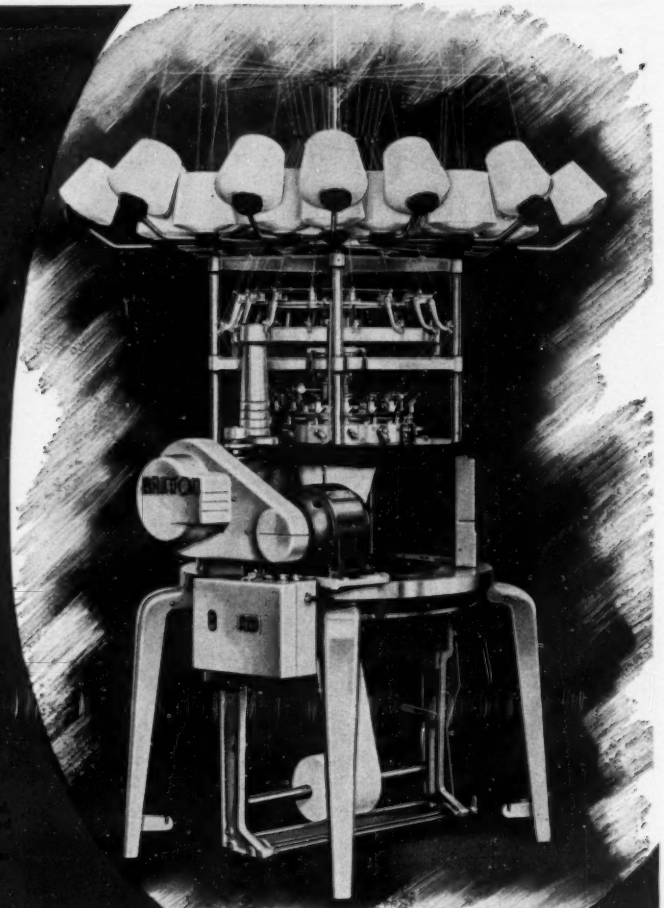
MODEL MULTIPLEX

STYLE [illegible]

Knitting Machine of the Mid-Century

BRINTON'S NEW DESIGN FOR BETTER PRODUCTION

Engineered features of Model Multiplex are:



BRINTON

CIRCULAR KNITTING MACHINES

AN EXECUTIVE Views

THE NEWS IN TEXTILES

Prepared by a man who is closely identified with the textile industry.

RENEGOTIATION is one problem which most top executives in textiles have found necessary to delegate to their accountants and attorneys, but it is a problem about which all of us should be informed if we expect to do business with the government. The writer of this column can certainly not give you an exhaustive dissertation on such a complicated and technical matter, but he would like to suggest that you might care to read a pamphlet which was issued not long ago by the Department of Defense called "Fact Sheet on Contract Renegotiation."

This pamphlet explains what renegotiation is and gives the background of the law under which we are now operating. It explains how the 1951 Act differs from the 1948 Act and defines the type of contract which is exempt from renegotiation. Unfortunately, it does not tell you how to determine the exact status of a contract under renegotiation from the standpoint of accounting procedures, but it does give you a sort of over-all bird's-eye view of what the subject is all about.

One specific problem (the pamphlet does not mention this) with which some manufacturers have been confounded has not been completely resolved. For some years the army has been making efforts to recover refunds of state income taxes received by contractors who were subject to renegotiation in 1942. It is our understanding that some manufacturers who have received such claims from the army have paid them because they amounted to relatively small sums, and it was felt that the amount at stake did not justify a fight. On the other hand, other manufacturers have refused payment.

At least one highly competent attorney thoroughly familiar with this problem has expressed the opinion that the government cannot legally reclaim these refunds of 1942 state income taxes. Therefore, if your company is faced with such a demand from the army, it might be worth your while to do a little more investigating before sending a check.

Cotton Standards

Most mill executives have probably heard something about the proposed new cotton standards, but they may not be familiar with some of the details. From the standpoint of background information, delegates to the Universal Cotton Standards Conference, which met in Washington about a year ago, recommended to the U.

Labor Rulings

Picketing technique of strikers, which prevented nonstriking employees from going to work, should result in denial of their reinstatement. Actual force and violence by picketers not essential, rules U. S. Court of Appeals.

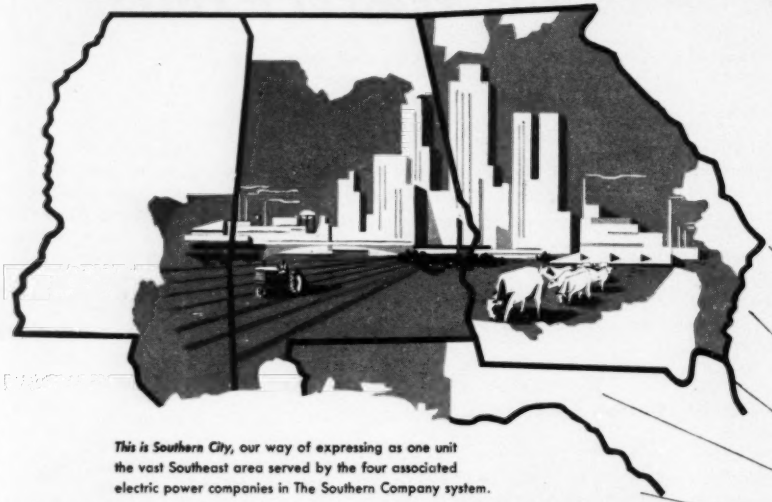
Refusal to cross picket line to pick up goods at another employer's premises was protected activity, and employee's discharge was an unfair labor practice; however employer could have required employee to elect whether to perform all his duties or become a striker subject to replacement, NLRB holds.

Acts and statements of supervisory personnel to employees about union activities and membership did not constitute interference with employees' rights of self-organization where there was no coercion, restraint, or threats to such employees, U. S. Court of Appeals rules.

Wage Stabilization

Bonus payments to employees made pursuant to established plans in operation since Jan., 1949, or in contracts or communicated to employees prior to Jan. 25, 1951, may be paid without specific prior WSB approval under WSB Regulation No. 14. Methods of computation or percentages used may not be changed in subsequent years. Established bonus plans include Christmas and profit-sharing plans, but not payments made more frequently than every three months or directly related to hours worked or units produced.

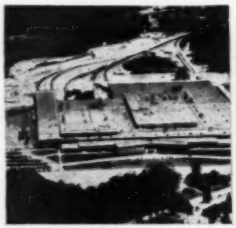
Business is up in SOUTHERN CITY U.S.A.



This is Southern City, our way of expressing as one unit the vast Southeast area served by the four associated electric power companies in The Southern Company system.

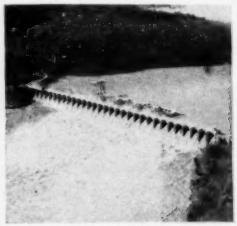
"Southern City," U.S.A., is no ordinary town. Its population of 6,300,000 is comfortably spread over an area of 100,000 square miles—the area served by associated power companies of The Southern Company system.

"Southern City" boasts well over a thousand manufacturing and processing plants, all established in the last decade alone, representing an investment of hundreds of millions of dollars. Yes, business is headed up and the ceiling is unlimited in "Southern City," U.S.A.



Industry likes Southern City's growing markets, wealth of raw materials, mild climate, high caliber of employees, low-cost power, and uncrowded building sites.

Agriculture diversifies . . . Livestock raising has come to the front and, with it, the planting of soil-building pasture and year-round cover crops.



Power for Southern City is supplied by forty-six fuel and hydro-generating plants linked together into one great integrated system.

Over 100,000 stockholders of The Southern Company, located in every state in the Union, are vitally interested in Southern City's progress because it assures a growing demand for electric power—a demand which, by conservative estimate, will be doubled in the next ten years.

The South and The Southern Company are both growing . . . together!

Write the industrial development departments of any of the four operating companies for further information.

ALABAMA POWER COMPANY
Birmingham, Alabama
GEORGIA POWER COMPANY
Atlanta, Georgia
GULF POWER COMPANY
Pensacola, Florida
MISSISSIPPI POWER COMPANY
Gulfport, Mississippi
Operating companies associated with

The Southern Company
Atlanta, Georgia

S. Department of Agriculture that new "boxes" be made up which would be more representative of current crops.

We understand that delegates stressed that the character of the crop has changed in recent years and that larger areas of irrigated cotton plus increased use of mechanical cotton pickers made necessary a re-examination of the government standards.

Following the Universal Conference, the Cotton Branch of the Production and Marketing Administration began the preparation of the proposed new standards. These were shown at a "preview" before a small group of mill buyers and cotton shippers in Washington in early August, and upon the recommendation of this group, the boxes were then taken on a tour of the principal cotton centers of the country, beginning at Charlotte and ending in Boston in September.

If the Department of Agriculture feels that the proposed standards are generally acceptable to the trade in this country, they will then submit them to the 1952 meeting of the Universal Cotton Standards Conference, and they could then become official in the late summer of that year.

The Department of Agriculture also raised another question for discussion at each of these meetings, and this one concerned the size of the "boxes" and the number of samples, called "biscuits" by the trade, which each box contains. The boxes currently in use contain twelve samples, and some sections have contended that reducing the number to six would simplify the work of the cotton sampler. Presumably, the Department's attitude on this point will be determined by the expressions received from buyers and shippers during the course of the regional meetings.

Customs Simplification Act

Still another matter in which manufacturers should be interested is the legislation which has been fought over in Congress during the past several weeks and which is known as the "Customs Simplification Act." The title of this bill is considerably misleading. Who is not in favor of simplification?

It has been traditional in some parts of the country that all political candidates are in favor of good roads and higher pay for school teachers and are opposed to sin and increases in taxes. Like "simplification," this has proved to be an air-tight platform even though the more cynically inclined among our citizens might say that it is not a sincere one.

Apparently it is quite true that the Customs Simplification Act would simplify some archaic regulations which are badly in need of simplification. It goes far beyond that, however., There are even some who say that under the guise of simplifying, the fair-haired boys of the Fair Deal are trying to lower our tariffs another notch without letting us know what they are doing to us.

The chemical industry is a rather good example, and in particular the dyestuffs section of the chemical industry. Textile mills are large customers of this industry, and in the event of war would like to feel that there is here at home a sufficient domestic supply to meet all needs. It has been estimated that just the cotton mills in this country use approximately eighty million dollars worth of dyestuffs each year, and it has also been contended that the Customs Simplification Act would jeopardize our domestic supply by permitting increased foreign imports—imports which might be cut off in time of war.

As we understand it, the way this works is that import duties have previously been determined on one valuation basis, and they are now trying to change this so that in effect the tariff would really be lowered.

All this just goes to prove how hard it is to keep up with what is happening today, and also goes to prove that it is not enough to be able to spin yarn and weave cloth. You also must keep up with regulations and amendments to regulations, with laws and with proposed laws.

Oct. 8-12—39th National Safety Congress and Exposition, Chicago, Ill.

Oct. 13—Fall meeting, Textile Operating Executives of Georgia, Georgia Institute of Technology, Atlanta, Ga. Subjects: Slashing and Weaving.

Oct. 17-19—Annual convention, American Association of Textile Chemists and Colorists, Hotel Statler, New York, N. Y.

Oct. 18-19—Annual meeting, North Carolina Cotton Manufacturers' Association, Carolina Hotel, Pinehurst, N. C.

Oct. 13—Meeting, Eastern Carolina Div., STA, Erwin Mills Auditorium, Durham, N. C.

Oct. 27 — Meeting, Northern North Carolina-Virginia Div., STA, High Point, N. C

Nov. 1-2—15th annual Time and Motion Study and Management Clinic, sponsored by Industrial Management Society, Sheraton Hotel, Chicago, Ill.

Nov. 3—Fall meeting, Alabama Textile Operating Executives, Auburn, Ala.

Nov. 3—Meeting, South Carolina Div., STA, Clemson, S. C.

Nov. 8-9—Annual meeting, Textile Research Institute, New York, N. Y.

Nov. 10 — Meeting, Piedmont Div., STA, Charlotte, N. C.

Nov. 26-Dec. 1—23rd Exposition of Chemical Industries, Grand Central Palace, New York, N. Y.

1952

Jan. 16-19—Plant Maintenance Show, Convention Hall, Philadelphia, Pa.

April 16-18—Annual convention, Cotton Manufacturers Association of Georgia, Boca Raton Hotel and Club, Boca Raton, Fla.

April 16-17—Spring meeting, Fiber Society, Clemson House, Clemson, S. C.

April 21-25—Knitting & Allied Crafts Exposition, Grand Central Palace, New York City.

April 28-29—Annual Meeting, National Association of Hosiery Manufacturers; also the Hosiery Industry Conference; Claridge Hotel, Atlantic City, N. J.

May 15-17—Third annual convention, American Cotton Manufacturers Institute, Inc., Haddon Hall Hotel, Atlantic City, N. J.

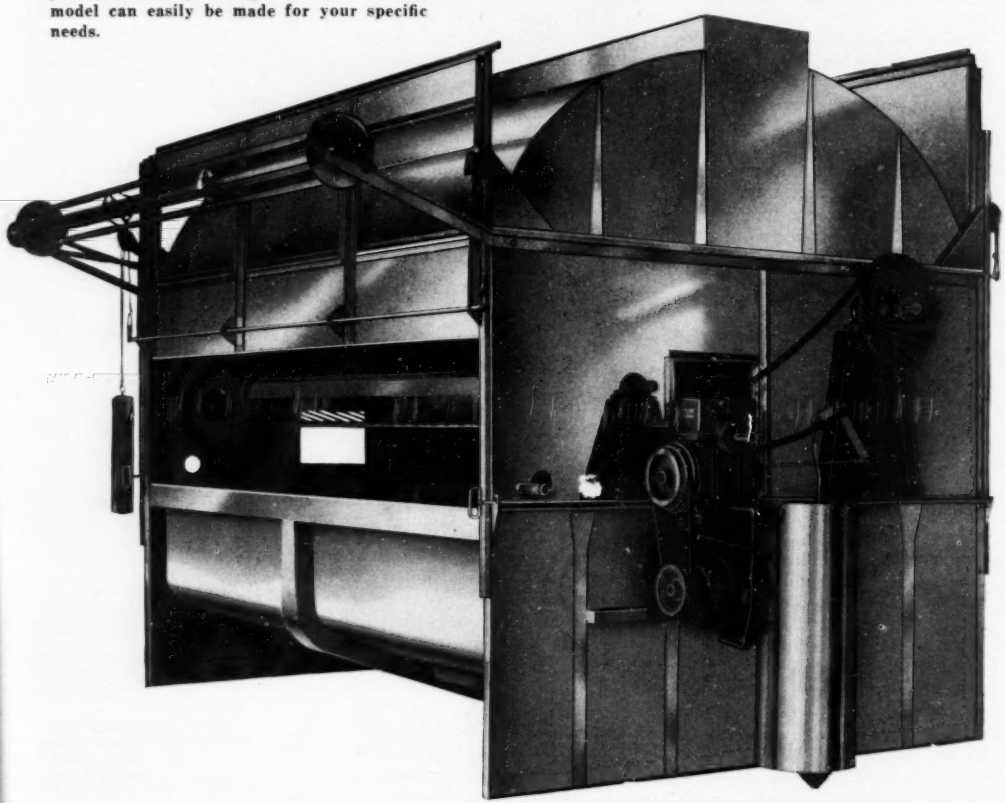
June 12-14—Annual meeting, Southern Textile Association, Ocean Forest Hotel, Myrtle Beach, S. C.

Oct. 6-11—Seventeenth Southern Textile Exposition, Textile Hall, Greenville, S. C.

Engineered for Better Dyeing . . .

BURLINGTON'S STAINLESS STEEL PIECE DYEING MACHINES

Burlington piece dyeing machines, now in operation in many finishing plants, have proven highly successful and efficient. The stainless steel construction is easy to clean; is rust, stain, and chemical proof; wears longer than other materials; and is more economical. Our engineering department will be glad to figure for you the best type of machine for your job. We are able to tailor the machine to fit your jobs—and your needs. Any changes in the standard model can easily be made for your specific needs.



Burlington's piece dyeing machine was developed for the purpose of providing a smoother, more efficient dyeing process for the textile industry. We eliminated many of the imperfections commonly found in dye becks and substituted improved Burlington features—the result is a dyeing machine of outstanding efficiency. Burlington-built dye becks, tailored to your plant's specifications, can do a better dyeing job for you. Consult or visit us for complete information.

Burlington ENGINEERING COMPANY, INC.

TELEPHONE [illegible] GRAHAM, N. C.

NEW Equipment AND MATERIALS

Universal Adjustable Grid Bar Assembly for Waste Control on Pickers

Study of the cleaning action of picker beaters in conjunction with the grid bars has shown that a better control of air currents under the beater can be obtained with a more accurate setting of the grid bars than has been possible with the older type grid bar assembly, according to information contained in a recent issue of "The Saco-Lowell Bulletin." Better control of the air currents under the beater means a better control of the droppings, it is claimed.

To obtain the full advantage of closer and more accurate settings for controlling the amount and the quality of the droppings, the Universal Adjustable Grid Bar Assembly has been designed and is now being manufactured. It may be applied to most models of old pickers, as well as to new machines.

The grid bars are cold drawn steel of triangular cross section of a sufficient size to prevent deflection, even when set as close as ⅛" from the path of the beater, the manufacturer states. The distance between the edges of the grid bar and the path of the beater may be adjusted for each grid bar individually. The angle that the grid bar presents to the stock may also be adjusted for each grid bar individually. In addition to the individual adjustments of each grid bar, the whole grid bar assembly may be adjusted as a unit.

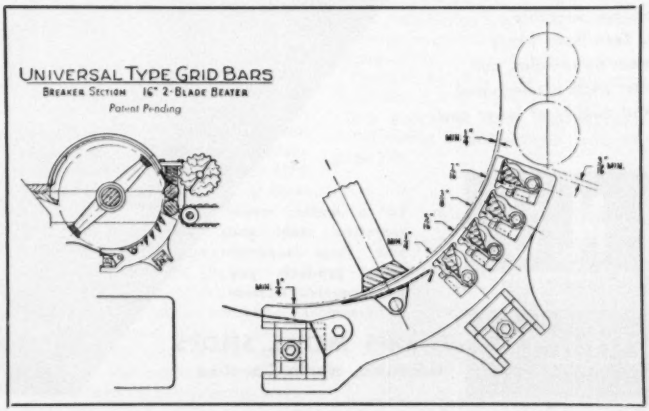
The grid bar assembly for a 16" beater section consists of cheeks for bolting to the picker sides, four grid bars with adjusting brackets, and an adjustable steel bottom for controlling the air currents.

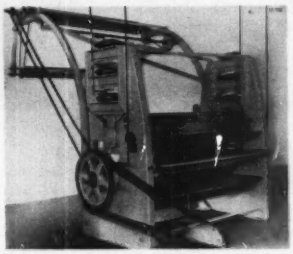
Mills in which this assembly has been tested report that where it is used picker droppings can be increased as much as 100% without wasting an appreciable amount of good cotton, according to the manufacturer. It is explained that the first impression when examining droppings from the new grid bar assembly is that they are somewhat rich in white cotton; however, on closer inspection, each large puffy mote is found to contain a neucleus seed coating surrounded by immature fibers, which, if allowed to go through with the cotton, might cause neps in the succeeding process.

Saco-Lowell Shops, 60 Batterymarch St., Boston, Mass.

For additional data, request item J-111, using business reply card on page 230.

Universal adjustable grid bar assembly for pickers (Saco-Lowell).





Type AD18 squeeze roll extractor.

Squeezer Provides More Even Lateral Pressure, Requires Less Maintenance

Three diaphragm-type air motors on each side of the new Riggs & Lombard Type AD18 Squeeze Roll Extractor insure more even pressure from side to side, it is stated. Pressure of 350 pounds per linear inch of roll surface is provided.

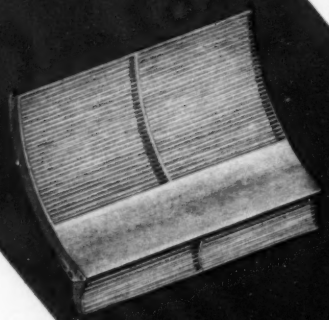
The top roll is rubber covered, and the bottom roll is jacketed with stainless steel. According to the manufacturer, this feature reduces maintenance, as the bottom roll does not have to be removed for periodic regrinding; also, the stainless steel roll effects better extraction.

A single expander roll is placed ahead of the main rolls to feed the cloth into the rolls open width and wrinkle-free.

Riggs & Lombard, Lowell, Mass.

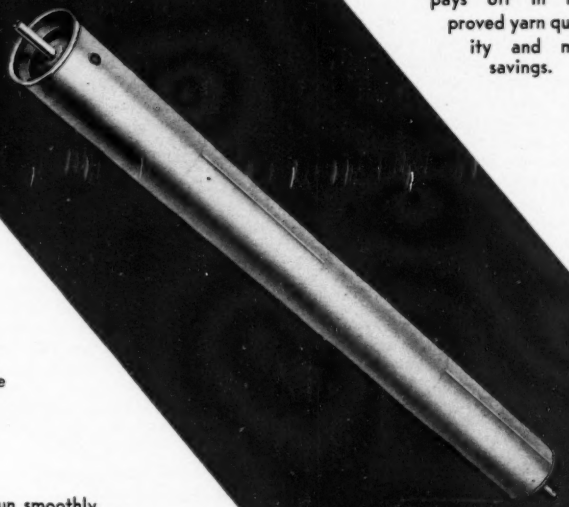
For additional data, request item J-102, using business reply card on page 230.

ENGINEERED Products Pay-Off ON THE JOB!



Metal products that "look just as good" may be a poor bargain!

Jenkins invites you to make the only test that really counts—try Jenkins engineered spinning cylinders and card screens under actual running conditions. You'll quickly see how their *operating perfection*—the result of scientific design and superior construction—pays off in improved yarn quality and mill savings.



PERFECT SCREEN SETTING PAYS!

Jenkins card screens are absolutely uniform in every part, with a patented grid bar feature that permits close, balanced setting to card cylinder. By eliminating excessive fly waste, Jenkins screens save valuable good-staple cotton.

SMOOTHER CYLINDER OPERATION PAYS!

Jenkins Dynamically Balanced cylinders run smoothly, steadily, without a trace of vibration. Yarn flows freely and smoothly at all speeds. Excessive wear on spindles, bolsters, gears, bearings, journals, and other parts is eliminated. You get increased production, improved quality at lower cost.

JENKINS

ENGINEERED PRODUCTS

Let a Jenkins representative show you how these superior metal products pay for themselves in finer performance!

JENKINS METAL SHOPS
Gastonia, North Carolina

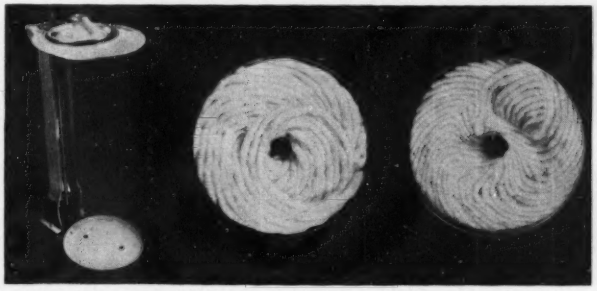


Fig. 1 Fig. 2 Fig. 3

Card and Drawing Frame Coiler Conversion for Use of 14-Inch Cans

A complete line of coiler conversion units is being manufactured for adapting any coiler for cards and drawing frames to use 14-inch cans.

A coiler stand of standard make with a special spectacle, tube gear, cantable, and the necessary gearing to assure utilization of maximum can capacity is shown in Fig. 1. The coil pattern obtained with the conversions where existing tube gears are used is shown in Fig. 2. Note that the throw of the tube gear is sufficient so that when the larger can is installed and proper speed ratio established, the sliver passes around the center of the can in perfectly uniform layers and maximum can capacity is utilized.

While this line of coiler conversion units was being developed, the manufacturer found that certain coilers presented special problems due primarily to the coil pattern resulting when the tube gear was of limited throw. For conversions where this is the case a new coil pattern (see Fig. 3) is available by using a smaller tube gear and higher ratio between cantable and tube gear speeds. Note that in this instance also maximum can capacity is utilized.

Southern States Equipment Co., Hampton, Ga.

For additional data, request item J-115, using business reply card on page 230.

Organic Phosphate Aids Dyeing and Continuous Alkaline Boil-Off

Barisol BRM is a recently developed dye assistant that is said to have unusual sequestering powers for the various pectins and other complex substances normally found in cotton.

As a wetting agent and dye leveler stable to boiling alkaline solutions (refluxing for 24 hours with a 3% to 6% caustic solution does not break it down, the manufacturer claims), the product was first introduced for vat and sulphur dyeing of cottons.

A trial of Barisol BRM in the kier by a mill technician first revealed its properties for clearing the bath and preventing deposits of scum on the interstices of the fabric, according to the manufacturers. This is said to have led to its trial in the caustic solution of the continuous alkaline boil-off where its sequestering action for pectic substances proved even more impressive.

The product is an organic phosphate of completely new structure, the announcement states, and laboratory investigation has pointed to the peculiar structure of several phosphate radicals built into the molecule as being responsible for the sequestering action on pectic substances.

Dexter Chemical Corp., Boulevard P. O. Box 1, New York 59, N. Y.

For additional data, request item J-113, using business reply card on page 230.

NEW Equipment AND MATERIALS

Shape of New Light Bulb Repels Dirt and Dust

An incandescent lamp that resembles the picture tube of a small television set has been developed for hard-to-reach high-bay factory areas. The 800-watt, 7⅛" maximum diameter lamp will burn an average of 1500 hours, the manufacturer claims. A standard mogul screw base allows operation in existing sockets. Lamp has a built-in silvery reflector on the inside of the bulb similar to a sealed beam automotive headlight, so that a curtain of dust on the bulb does not reduce its efficiency. Only its lower surface is vulnerable to the dirt particles, and they cling there only with difficulty. Designated R-57 Bulb Industrial Reflector.

Westinghouse Electric Corp., 306 Fourth Ave., Pittsburgh 30, Pa. (J-314).

Varied Angle Ring Temple

Two important advantages are said to accrue from the use of the Broell Ring Temple Roll which is based upon the varied angle principle and utilizes eccentric spacers that increase the pitch of the rings progressively from the inside toward the selvage:

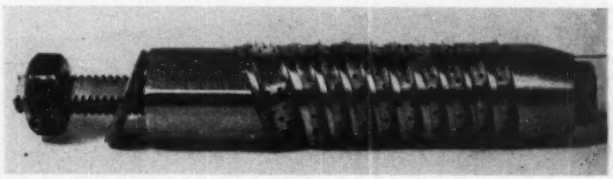
(1) A minimum pull is exerted upon the fabric at the center with tension increasing toward the selvage and maximum pull being attained at the selvage itself;

(2) A screw-like movement is imparted to the fabric due to the construction of the eccentric spacers, thus keeping the fabric pulled toward the selvage in a continuous motion.

Eight different types of rings (burrs) are available for all fabric ranges, including double selvage rings. All rings are standardized to one size and thus are interchangeable

(Continued on page 185)

Broell ring temple roll is based upon varied angle principle.



Textile America really "cottons" to

The new improved DAYCO COT

with fiber repellence PLUS

The "super" fiber repellence of the new Dayco Cot has millmen all over America talking! Listen: "Drastically cut time-outs for correcting ends-down and lap-ups" . . . "Already outlasted the type of cot we were using, and good for years more service" . . . "They spin perfect yarn right from the go, even on Monday morning startups" . . . "Save time for the mechanics—roll replacement is minimized."

Yes, the new Dayco Cot cuts ends-down and lap-ups, let's you run with minimum down-time. Gives cleaner yarn, too. Spins cotton, wool, blends, synthetic fibers. And for cot life —it even outlasts previous Dayco Cots, and that's going some! For the long pull—man your frames with Daycos for the years ahead. Ask your salesman or: **Dayton Rubber Co., Textile Div., Woodside Bldg., Greenville, S. C.**

Who doesn't "cotton" to cottons filled as nicely as this? Dayco Cots help cotton to blossom a second time in dresses like this for American women.

Dayton Rubber

Shorts and Remnants

TI for 10 Years

"One of my foreign correspondents is anxious to obtain a run of the last 10 years of your periodical. Will you kindly advise me whether and at what price you can offer me a set."

ERNEST EISELE
97 Fort Place
Staten Island 1, N. Y.

► Bibliofilm Service, U. S. Dept. of Agriculture Library, Washington, D. C., can supply photoprints or complete volumes on microfilm.

Outstanding

"I think the article 'Quality Control of Fibers' in your August issue is outstanding. I would like to have at least six reprints of it."

E. W. CARPENTER
Greenwood (S. C.) Mills

► Reprints available.

Rippelastic Without Obligation

" . . . . please send us, without obligation, samples and further information regarding Rippelastic, elasticized cotton by Bates, as advertised . . . . your magazine. . . . "

ADOLF GROSSKOPF
Boras Wafveri Aktielbolag
Boras, Sweden

Can You Share Experiences?

"We are interested in establishing an instruction program for weavers and loomfixers and would appreciate very much being able to get some material to serve as a guide in getting started. If you have anything that may be of assistance to us, or know of anyone who would be willing to share experiences with us, we would appreciate it very much.

HOWARD P. DERRICKSON
Baltic Mills Co.
Baltic, Conn.

► Information and sources of contact recommended. Anyone who can share experiences, kindly contact Mr. Derrickson.

Electric Trucks

"Please send me a copy of TI, September 1949. I am interested in the article 'Material Handling by Electric Truck.' "

W. H. KORDT
Staff Engineer
Chicopee Mfg. Corp.
New Brunswick, N. J.

Tricot

" . . . just acquired tricot machines . . . brief me on the novelties that have lately come out in fabrics . . . send me samples of new fabrics. . . . "

MANUEL RECHTMAN
Newton 23-F, Mexico

Training Methods

"The headquarters of the International Labor Office at Geneva, Switzerland is interested in obtaining information concerning training methods used in the American textile industry, particularly those employed for the manufacture of cotton and rayon goods. . . . "

THATCHER WINSLOW
Director
International Labor Office
Washington, D. C.

Tape Condensers

"With reference to your July issue, we find the article on tape condensers of particular interest . . . request two reprints. Your report of the Wool Carders Meeting in Providence also refers to this same subject of tapes . . . two reprints of this."

G. M. SMITH
U. S. Rubber Co.
Providence, R. I.

Full-Fashioned

" . . . . if you have available any reprints of articles you may have published from time to time on full-fashioned hosiery planning and control. . . . "

A. S. THOMPSON, Jr.
Supersilk Hosiery Mills
London, Canada

► "Full-Fashioned Hosiery Knitting" published by TI covers a wide range of manufacturing practices; it may be secured in conjunction with a subscription to TI.

TI TO YOUR DOORSTEP

Many of you readers have seen some of the folks in this picture personally. The photograph was made recently during a conference of TI's circulation representatives (who also represent W. R. C. Smith on some of the other five business publications). Here the circulation men (and ladies) are meeting with some of the officers, the editors, and business managers. They stand ready to serve textile men in all parts of the country.

Recently one of these circulation representatives was visiting a mill when he was accosted in a rather abrupt manner by an overseer, with the question, "What are you doing here, selling magazines?"

The superintendent overheard, and before the representative could speak, the super answered for him:

"No! He's not 'selling magazines.' This man is bringing us information in printed form which helps us run our mill."

Rugged dependability

The outstanding knitting results achieved with Textile Spring-Beard Needles are the result of strength and flexibility built in during the manufacturing process. A special steel formula, superior tempering and scientific controls—automatic and electronic—are the reason for this rugged dependability.

Strength and flexibility are two of the many advantages you get in Textile Spring-Beard Needles. You can see the results in better fabrics, increased profits.

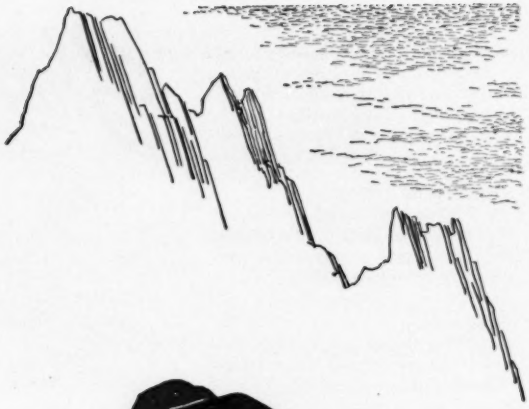
TEXTILE MACHINE WORKS, READING, PENNA.

Textile

SPRING-BEARD NEEDLES

For Full-Fashioned Knitting

For Tricot Knitting



"Tar Spots" Are with Us

(A preliminary report to the Cotton-Textile Industry)

*"**Tar in Cotton Still Problem.** Bleacheries and mills are still having their troubles with tar on cotton goods. Opinions among mill men are that in addition to bale ties coated with tar, the foreign material may be thrown onto the bales during transit along highways by truck. A test for locating tar prior to processing in the grey goods mill is now available. One commercial bleachery man advises that he is now '100% on tar goods;' every mill which sends fabric to be bleached or finished has tar in the cloth."*—TEXTILE INDUSTRIES, *Sept. '51, p233.*

THE FOREGOING item taken from the September issue of this magazine emphasizes the problem which cotton textile plants are having with "tar spots" or asphalt-like* substances in the goods. Not counting the time and efforts of operating men to trace down and attempt to reduce the difficulty, the spots are costing the industry thousands of dollars in lower quality goods.

And the problem has hit the industry during a particularly bad spell of the market; this is not unusual in itself because buyers customarily find more fault with goods on a declining market—but even in good times tar spots are not a welcome addition to the cloth.

Currently a project to determine the cause and possible remedies for tar spots is being spearheaded by the National Cotton Council of America, in cooperation with a dozen mills, and other agencies are studying the problem to aid the cotton textile industry.

The editors of this magazine expect in the very near future to publish the findings of the study being made, but it is felt that such information as is available at present should be disseminated so that the industry may take advantage of present knowledge. Therefore, this treatment of the subject should be considered as a preliminary report.

Although this article deals with some of the causes and possible ways in which tar spots can be reduced, readers are cautioned not to be misled that all "black spots" are caused by tar; other types of contamination are possible.

A Bit of History. More than a dozen years ago mills were troubled with "black specks" showing up in the cloth, and authoritative sources identified the foreign material as "tarry organic matter." Some mill men were of the opinion that the specks were not in the grey cloth, but entered the fabric after the finishing process between the water mangle and the starch mangle.

Although part of the trouble may have been caused as stated, finishing plants and commercial laboratories were quick to point out that the substance arrived at their doorsteps in the goods and they were not to blame. Furthermore, it was proved beyond dispute that the black specks were in the stock at the time of drafting on cotton type machinery. In many instances the foreign matter appeared in the warp or filling only —not both places.

Belt dressing was also suspected, as was the tar from tar and gravel roofs; but in an elimination process which would have done justice to present-day FBI methods, the foreign matter was traced back to the cotton. One mill man decided to purchase his cotton from the Middle West to help solve the problem; he did so and discovered that the number of black specks was reduced, but not eliminated.

In a further test this mill man attempted to reduce the black specks by carding. To some extent he was successful. Chemical analysis from several laboratories was at variance, but if the substance was tar, as suspected, then it is thought that the problem must be attacked well in advance of the card room; though carding for tar in cotton may have been successful in part, it is considered an extra curricula activity for this machine.

About this same time another mill was having almost identical trouble. Several thousands of dollars were spent attempting to trace down the cause of the black specks. The fact was definitely established that the foreign matter was coming from tie paint on the cotton bale.

It is interesting to note that this mill also purchased cotton from a different locality (western) but was not successful in reducing the black specks; the first had been partially successful.

Once it was known that the foreign matter was tie paint, the mill was able to eliminate the trouble; "how" was not reported, but presumably the mill required

EXCLUSIVE

Staff Prepared

*Where the terms "tar spots" or "asphalt" or "black specks" etc., are used in this discussion, they refer to the foreign matter currently being found in cotton goods and which have been identified as "tarry substances." Asphalt is a brown to black bitumen found in natural beds or obtained as a residue from petroleums, coal tar, etc.; it is often used on roads and as base for bale ties. Tar is a dark brown or black viscous liquid obtained by distillation of wood, coal, peat, etc.; it is used on roads, roofs, as base for bale tie coatings, etc.

that all bales be picked, brushed, or combed before processing.

In a further study of the use of paint on the bale ties, the mill uncovered the fact that most of the difficulty was experienced (in those days) on cotton coming from west of the Mississippi River. The reason given, according to manufacturers of bale ties, was that they were requested to furnish for the area west of the river ties heavily painted with a black asphalt paint because so much of the cotton from that district was exported and the shippers desired additional protection on the exported cotton. It was natural that some of those heavily painted ties found their way onto cotton grown in the Southeast; it was also found that secondhand ties were treated with a similar asphalt base paint.

Inasmuch as the foregoing traces some of the history of the tar problem, it should be mentioned that a campaign to eliminate the use of asphalt-base paint has been under way and presumably has resulted in improved practices until more recently. However, it could have been that shortly following the foregoing experiences the textile industry was engaged in a tremendous defense effort and those who could purchase cotton goods did so whether they were tarred or tarred and feathered.

Then in 1948 the statement was made that some spinners were losing up to $40 a bale because of asphalt coating on the steel bale ties. At that time the National Cotton Council recommended that manufacturers of bale ties discontinue coating the ties until a suitable coating material could be provided, that cotton spinners refuse to sell coated ties for re-use as bale ties, that research be undertaken to find a solvent for the removal of paint from coated ties, and that gins be urged to have the paint or coating removed before using ties.

Various associations and the publications saw the wisdom of such recommendations, and an educational campaign was started. Later, a special coating which was the result of wartime research was tried by the mills.

The campaign to eliminate cotton lint losses due to painted bale ties was so successful that in 1949 losses had been greatly reduced. According to a report, no coated ties had been manufactured since May 1948 and few coated ties were to be expected on the cotton crop for 1949.

Then wham! Tar is back with us.

THE AUGUST issue of this magazine, under the column "An Executive Views the News in Textiles," touched on the subject of tar spots. Suggested sources were given as coated ties, asphalt picked up from the highways, cotton spattered with asphalt in the fields when fast-moving trucks or cars pass, droppings from fluorescent lights, and interiors of railroad freight cars.

That discussion in the August issue caused the following letter [abstracted] to be written by a mill executive to one of the textile associations:

"In the August 1951 issue of TEXTILE INDUSTRIES appeared an article on tar spots which was of particular interest to us because we had just settled a claim on some of our own fine carded cotton goods for tar spots, which cost us several thousand dollars.

"The article . . . gave several possible causes which in some instances coincide with some theories that we have. We were interested in the article because it indicated that the problem was industry-wide, rather than just a local mill problem. We are attaching herewith a copy of the above mentioned article.

"If tar spots in yarn and cloth are caused by tar or tarry substances which are on the bale of cotton when it is received at the mill, and the trouble is industry-wide as it appears to be, then we believe that the matter is of sufficient importance for your association and other associations to work together to try to eliminate the cause of the trouble.

"We will mention some facts pertaining to our own experience with tar spots:

"Several years ago we had a complaint on black specks in our broadcloth, and upon investigation the specks seemed to be a tarry substance. Other mills seemed to be having similar problems during that period, and it was generally believed that recoated bale ties were responsible. A drive was made by the association and the industry to eliminate the use of recoated ties, and apparently the trouble cleared up.

"We did not have to pay a claim on our own complaint, and we assumed, too, that the recoated ties must have been at fault. However, since the trouble has come up again, in looking back to our previous experience it could very well be that the improvement in the market conditions at that time could have been partially responsible for the lack of complaints due to tar spots.

"The coated ties were no doubt responsible for some of the trouble, but we are convinced now that ties were not altogether responsible. We have continued to check for bales containing recoated ties, but for the past year or two we have not found any of these ties.

"Now that we are again having tar spots in our cloth, and we are not receiving recoated ties on our bales, the cause of the trouble must be elsewhere.

"When our current trouble came up, we were notified that our broadcloth that had been finished in whites, contained black spots that did not come out during bleaching and finishing. Some samples were sent to U. S. Testing and they advised that the spots or specks were tar or a tarry substance.

"In making our grey cloth inspection we had failed to find any evidence of black specks, but the size of these tar spots is almost identical to leaf and other foreign matter in carded yarns, and it was not practical to notice the spots during normal inspection.

"After receiving the report from U. S. Testing, we made a minute inspection of some of our grey cloth and we did find some of the tar spots in the unfinished cloth. In checking the specks or spots of tar that we found in the grey cloth, we found that the tar seemed to be spun right into the yarn. We checked carefully on each process through which the yarn and cloth went during processing but we failed to find any evi-

dence of a foreign substance, such as the tar, getting on the yarn during processing.

"We then had two men, in addition to our regular opener room tender, check on the raw cotton as it came from the bales; they practically hand-picked each bale. Upon close observation, they found small beads or lumps of a tarry substance adherring to the bales.

"In practically all cases, the tarry substance seemed tc have gotten on the bale after it was originally baled. The particles were either stuck on the sides of the bales where the covering did not go around, or on the ends of the bales where the covering had come loose.

"In a good many cases, the substance had gotten on the cotton through the bagging, because the regular jute bagging is not closely woven. Incidentally, we checked our own warehouses to see if there was any chance of tar or pitch from the roof getting on the bales.

"It is not possible for us to say just where the tar gets on the bales, but from our own checking we are of the opinion that it gets on the bale after the cotton is baled.

"As pointed out in the TEXTILE INDUSTRIES' article, it could be that some of the tar is thrown on the bales by trucks, from asphalt or tarred roads, or it could very well be that the cotton bales are concentrated in some loading area where tar or asphalt is made or handled. We understand that some loading strips through the Delta may be asphalt coated to protect bales waiting for loading from ground moisture. If such is the case, some of the tar could come from those places.

"It is also very probable that some of the tar gets on the bales during transportation, as we have found some evidence of tarry substances inside of railroad cars.

"The bales on which we found evidence of tar lumps were not all from one shipper, nor were they from one area. We found particles from several shippers and on bales containing gin tags from Mississippi, Texas, Tennessee, and Arkansas. Since the bales that we have found come from several areas, it seems to indicate that perhaps the tar gets on during transportation, but we do not think that the other possibilities should be overlooked.

"We use 1⅛" SLM cotton from the Memphis-Mississippi area, and we usually receive cotton in 100-bale lots. The cotton that we receive as one lot, no doubt, comes from a number of different planters and is

How "Tar Spots" May Get on Cotton

► Cotton fields bordering on freshly tarred roads (thrown by car or truck wheels).

► Dropped from airplane wheels while dusting crop.

► From wagon wheels while hauling cotton to gins.

► Thrown by tractor wheels at gins.

► Loading platforms at gins, warehouses, or mills.

► Melted roofs at gins, warehouses, or mills.

► Re-used bagging and bale ties.

► Thrown up by truck or trailer wheels in hauling.

► Insides of railroad cars.

► Starter switches in fluorescent lights.

► Belt dressings, or hard greases.

► It has been reported recently that another source of tar is the tarry substance coating on the outside of the bottom of the pickers' sacks, used especially by hand pickers in the Delta region. Many of the sacks supplied to these pickers are about 20 feet long, and the manufacturer of the sacks puts the coating on the sacks to reduce wear when the cotton picker drags them along the rows. Steps are being taken by a national agency to eliminate this source of the trouble.

Other Comments on "Tar Spots"

► Tar or belt dressing has been noticed on the steel rolls of drawing frames; these are cleaned periodically with card clothing and a 50-50 mixture of mineral spirits and carbon tetrachloride. Also, each bale of cotton is "curried" with a comb made of an old Kirschner beater so that no visible stains are left; the removed cotton (about ¼ lb per bale) is sold as damaged cotton.

► Railroad box cars were found to be lined with petroleum asphalt. Checks made on bales of cotton (using the tetrachlorethane method) indicated no spots inside of the bales but spots on the outside and top.

► Mill had more trouble with tar spots in carded goods than in combed goods, belief being that combing removes some of the tar. Bales are picked and brushed thoroughly.

► Trouble with tar spots traced to use of 1948 loan cotton banded with tarred bale ties.

► Mill man convinced tar is all through the bale and not just on the exterior; more trouble with cotton from one area.

► Climatic conditions may have an influence on tar spot occurrence (presumably leaking roofs in warm weather, or soft highways).

► Mill is having trouble with tar spots, but pointed out that hard grease and certain types of lubricating oil and grease also cause trouble. Emphasized being certain of type of contamination because misinformation can confuse those attempting to get at the principal source of tar damage.

► More tar in warp yarns than filling yarns; suggested that the slub in the finer filling yarns causes end breakage in spinning so that the spot does not carry through to the fabric.

► Tar spots coming primarily from the roof of the building.

► Lumps of tar as large as pencil eraser getting on calender roll in finishing plant; this causes a roll diameter repeat of the tar in the finished goods.

Testing for Tar Spots

Mills desiring to conduct tests for presence of tar on cotton may secure the necessary testing procedure instructions from the Institute of Textile Technology, Charlottesville, Va.; or from the National Cotton Council of America, Memphis, Tenn.

Steps Which May Be Taken by Mills for Temporary Reduction of "Tar Spots"

► Bring to attention of shippers so that bales may be properly covered in transit.

► Insist on use of clean railroad cars.

► Determine whether tar spots predominate on cotton from different sections; action will then depend on purchase policies of mills.

► Check loading platforms and storage facilities at mills for cleanliness.

► Check for leaking roofs in mill.

► Clean drawing rolls and other places where tar may accumulate.

► Determine if "tar spots" are actually tar or some other foreign matter, such as belt dressing, heavy grease, etc.

► Brush, rake, or pick outside of every bale before processing; dispose of pickings so that tarred stock is so identified and will not find its way into white stock.

► Dispose of or store coated bale ties where flaked-off paint will not find its way into the white stock.

► Using test procedure available from NCC or ITT, check cotton received for tar.

grouped together at some concentration point.

"We have recently received a lot of 1951 cotton, and we have found some evidence of tar particles on two or three bales in that lot. The tar spot problem is being taken up with all of our shippers, and we are showing them samples of cloth and tar.

"At best it will take a long time to ever track down just what is causing the trouble, and where the tar is coming from, but the more people who are interested in the matter the quicker something will be worked out.

"If it is a problem that is as prevalent as is indicated and is one that can be as expensive as our recent claim, then we believe that it is important enough to justify whatever time and effort is required to get to the bottom of the trouble and permanently eliminate it from the industry.

"We are convinced that there is some evidence of tar particles in all of our cotton production, and the only reason that we haven't had more complaints is because most of our goods are being finished in darker colors, where the spots tend to be covered up. Or, it could be that most of the yardage that we have shipped during the past several months is still being held at the finishing plants and has never been finished.

"It would no doubt take many years to break away from convention, but it seems to us that cotton should be baled with a better protective covering than has been used to date and is still being used. When cotton was five cents a pound and users of cotton fabrics were not too particular about quality, it probably didn't matter what type of bagging was used and how much damage occurred on the outside of the cotton bales. However, now that cotton is in a much higher bracket and the quality of cloth is of utmost importance, it is time for the industry to demand better covering for the bales.

"When a mill buys cotton, it pays the same price for the bagging and ties that it does for the cotton, and in recent months that has meant a high price for old, reworked jute bagging that only about half covers the bale. And even where the bales are covered, the weave is so open that the cotton doesn't get much protection.

"We happen to run synthetics as well as cotton, and in buying rayon staple we pay only on the net pounds of fiber—do not pay for the covering material at all. However, with the manufacturer furnishing the covering, we get a complete protective covering of cardboard or waterproof paper on these bales.

"For the past 12 months the average price of rayon has perhaps been below the price of cotton, especially with the waste factor considered, so it should be just as important to have sufficient covering on cotton bales, as for rayon. It is true that cotton does not become as easily damaged with water as rayon does, but a good protective covering would prevent cotton from becoming damaged by foreign matter, such as tar adhering to the fibers. With cotton priced as high as it is and with the buyer paying indirectly for the bagging anyhow, a better covering should be required.

"It seems to us that a good all cotton fabric could be worked out, to be used for covering cotton bales, which would not only give better protection to high price cotton fiber, but at the same time would furnish an additional market for cotton cloth. We realize that when cotton is sampled that the bagging is cut on either side of the bale, but even with that part of the bale being exposed, it shouldn't be too much of a problem if the remainder of the bale were completely covered by a closely woven fabric.

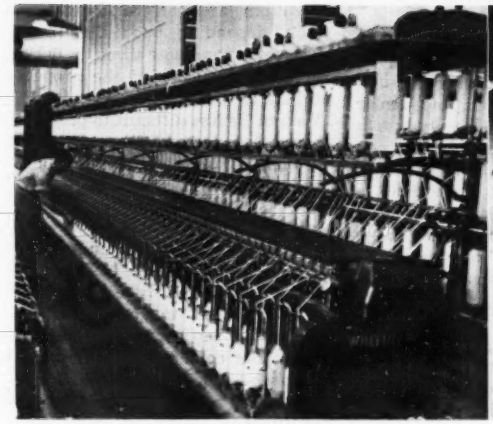
"Complete covering of the cotton in the bales would not eliminate the source of the tar particles, but it would eliminate the resultant trouble caused by the presence of the tar which gets onto the bale after it is ginned."

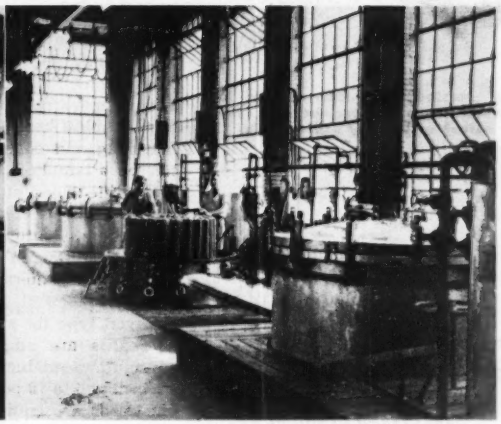
SECRETARY-TREASURER.

Editor's Note: On a problem which is as damaging to the cotton textile industry as the current "tar spot" trouble, concerted action by the industry is necessary. The various associations can carry the ball, but cooperation by the mills is essential so that the associations will be armed with evidence.

Although several possible sources of "tar spots" are listed and possible temporary remedial action is suggested, a cooperative effort by the mills advising how the problem is being solved in each plant will prove helpful to the entire industry—until more permanent steps can be taken.

Therefore, if you have discovered a temporary solution to the "tar spot" problem, or if you have comments on the information appearing in this article, write to the editors of this magazine so that your ideas may be placed before the entire industry.





SPECIAL STANDS with wide settings on fly frames (left) accommodate the long staple synthetic fibers processed at Newnan. Stainless steel dye kettles (right) are equipped to provide 50 per cent more pump capacity than conventional equipment. Acetate dyes are used.

Mill develops its own approach in handling

"Dacron" from fiber to fabric

on the American worsted system

Here's how a progressive mill manufactures finished fabrics from the relatively new staple fiber called "Dacron"

EXCLUSIVE

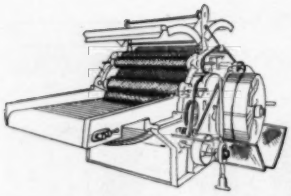
Staff Prepared

ANYONE who has handled and processed nylon should welcome "Dacron" with open arms and should find that "Dacron" runs well throughout the manufacturing processes, according to K. B. Nixon, president of Newnan Cotton Mills, Newnan, Ga. Mr. Nixon stated that tests indicate 70 per cent "Dacron" and 30 per cent wool may be an ideal blend for simulating worsted type fabrics. At Newnan, blends are made in the following proportions:

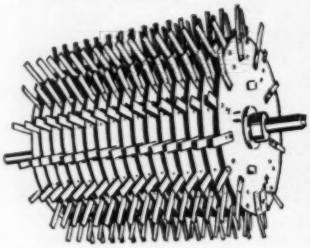
Per Cent "Dacron"	Per Cent Wool
60	40
40	60
50	50
70	30

Combed worsted wool (56s to 58s) is used in the blends.

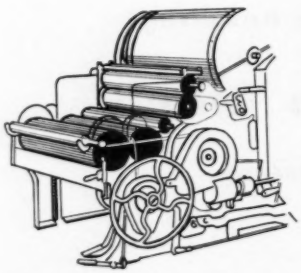
Opening and Picking. A cotton type picker equipped with a porcupine (Buckley) beater is used, and a beater speed of 1000 rpm is satisfactory for running the new fiber. Dampers are set to deposit most of the stock on the top cage to prevent split laps, and a fan speed of 1400 rpm delivers stock uniformly to the cage. Lap puckering may be minimized by speeding the calendering section, but some form of preparation should be employed before introducing the stock to the pickers. A worsted type picker is used to advantage in "pre-open-



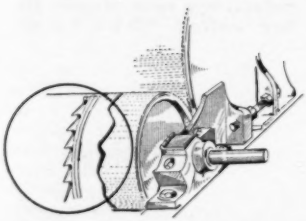
A worsted type picker is used to advantage in "pre-opening" the stock at Newnan Cotton Mills.



A Buckley beater run at 1000 rpm is satisfactory for processing "Dacron" on a cotton type picker.



Lap puckering may be minimized by speeding the calendering section on the picker when processing "Dacron."



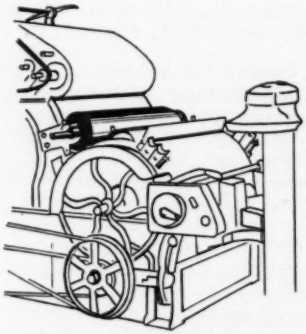
Roller top cards are equipped with cotton type lickers-in which operate at 160 to 180 rpm.

ing" the stock at Newnan. A 13-ounce lap is considered optimum in this mill. In some instances roving is wound onto each layer of the picker laps to prevent split laps or broken laps.

Carding. Part of the philosophy at this mill is that long staple, coarse denier fibers may be spun into finer yarns than fine denier short staple fibers. The premise is that long and coarse staple stock can be attenuated more than the short fine fiber stock without a corresponding decrease in strength; therefore 2½ to 3-inch staple lengths of "Dacron" are processed at Newnan. Deniers range from 3d to 1½d.

Rayon type (or synthetic) roller top cards are employed with a minimum of production difficulties in carding 8 to 10 pounds per hour. The cards are equipped with cotton type lickers-in which operate at 160 to 180 rpm. A fringe roll is used instead of a fluted feed roll, and a fancy roll is used to assure good work. A card draft of 100 is used on 50-grain sliver.

Different staple lengths of the fiber make it necessary to alter machine settings, and the longer the staple, the more open the settings should be. The old rule of thumb used in running cotton is not satisfactory on "Dacron." For example: In running cotton, some card grinders often open the settings 1/16-inch in changing from one-inch to 1 1/16-inch stock. In running "Dacron," and in changing from 3-inch to 3⅛-inch staple, it is necessary to add 20 per cent to the setting in that the staple length was increased 20 per cent.



A fancy roll is used on roller top cards to assure good work, and a fringe roll is used instead of a fluted feed roll.

One, two, and three fly frame operations are performed on the stock, depending upon the final yarn counts and how sheer the fabric is to be. Provided the proper anti-static finish has been applied, "Dacron" is less difficult to process than nylon and gives less trouble throughout the manufacturing operations, according to Mr. Nixon.

Spinning. The American system of worsted spinning is employed with excellent results. In this instance conical oil-type spinning rings are used in that Newnan runs long fiber synthetics and has found that conical rings alleviate the problem of friction for synthetics. Whitin F-2 spinning frames are utilized.

Yarn count equivalents range from 10s worsted singles to singles 50s worsted. "Dacron" does not lap-up as badly as nylon, especially on fly frames. There are some lap-ups in spinning, but this condition may be reduced by using less finishing oil on the fibers to make them less sticky. Du Pont finishing oil No. 3 is used on "Dacron" to control static.

Slashing and Weaving. Both cotton and rayon type slashers are used, but this equipment is not completely satisfactory for slashing "Dacron," according to experience at Newnan. A specially designed worsted type air dryer slasher has been purchased from Andrews & Goodrich, but the machine has not been placed in operation yet. The new machine is somewhat similar to the present hot air type slasher; however a number of modifications are incorporated. It may be necessary to make additional modifications on the new slasher in order to obtain the desired results.

Poor results have been achieved at Newnan in sizing single "Dacron" yarns for weaving; however weaving efficiency is as good as on nylon and much better than on worsteds. No difficulty has been encountered in weaving plied yarn warps.

Crompton & Knowles C-4 looms

are used to weave "Dacron" into worsted type fabrics, and 72 to 75 per cent relative humidity is maintained for this operation. It is not desirable to exceed 75 per cent relative humidity in this instance.

The No. 3 finishing oil is applied as a static conditioner in the warping operation if the yarn has been wet processed before it is woven.

Dyeing and Finishing. One of the most troublesome features of "Dacron" is difficulty in dyeing; however this is simply a matter of developing a suitable process for a relatively new fiber, according to Mr. Nixon. Acetate dyes are presently being used for best results in piece goods dyeing and also in package dyeing yarn. Pressure dyeing of package yarn is accomplished in machines adapted to operate under 15 pounds pressure at 250 F.

Benzoic acid is employed as the dyestuff carrier in dyeing piece goods because it promotes better color value and greater penetration which results in improved fastness to washing, crocking, and sublimation. This dyeing method has been satisfactory for dyeing suiting fabrics in a beck. The acetate colors provide the widest shade range and exhibit the best all-round fastness, according to experience at Newnan.

Stainless steel dye kettles are utilized, and yarn is dyed on stainless steel springs. Special dye kettles were made in the mill shop (with one exception) to withstand the high temperature, pressure, and volume of dye liquor. The capacity of pumps used in conjunction with the dye kettles is 50 per cent more than those commonly used in other types of dyeing.

Newnan has three 850-lb kettles,

(*Continued on page 183*)

Comparative Facts about "Dacron" as supplied by Newnan

Abrasion Resistance

The abrasion resistance of "Dacron" is good. It is far superior to many fibers, although it falls far short of nylon in this respect.

Fiber Tested	Revolutions of Tabor Tester
"Dacron"	7000
rayon	260
nylon	16500

Wrinkle Resistance and Flexing

"Dacron" has excellent wrinkle resistance, wet or dry. Tests on a Masland flexing machine have shown that "Dacron" withstands from 55,000 to 140,000 flexes as compared to 2900 for non-resinated rayon. The figure for nylon is in the range of 200,000 flexes on the Masland machine.

Moisture Regain

"Dacron" has a moisture regain index of .4 as compared to 3.4 for nylon. "Dacron" absorbs 1 per cent water as compared to 8 per cent for nylon.

Weight

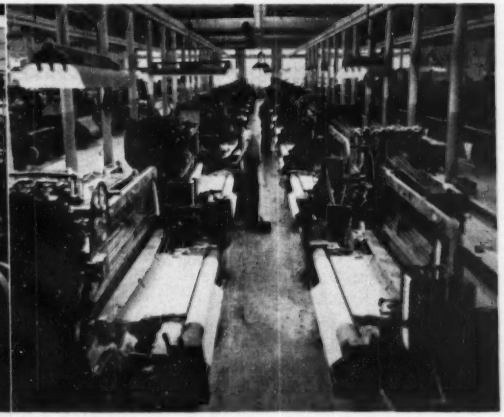
"Dacron"	nylon
dry 5.1	5.1 grams per denier
wet 5.2	4.6 grams per denier

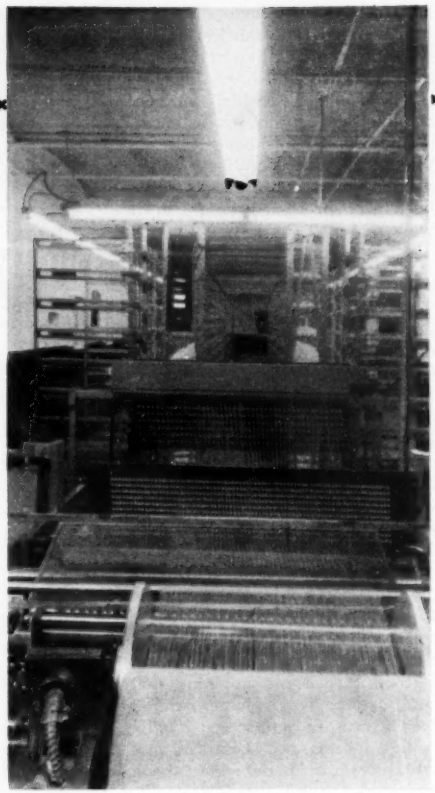
Melting Point

"Dacron" has a low melting point and is used principally in men's half-hose, sweaters, and it is blended with cotton for use in knitted underwear. The low melting point of "Dacron" affects its use in outerwear garments in that sparks from cigars, cigarettes, pipes, or from any source may easily burn a hole in the fabric. Fabrics produced from blends of "Dacron" with high melting point fibers should eliminate this difficulty, and a few tests already made have shown marked improvement in this respect.

HIGH SPEED WARPER is run 10 per cent faster on "Dacron" than on long staple cotton. Flexibility permits running warps of different fibers intermittently.

WORSTED HEADS are employed on 4x1 drop box looms. The looms shown are weaving goods to be piece dyed and measure 78 inches between swords.



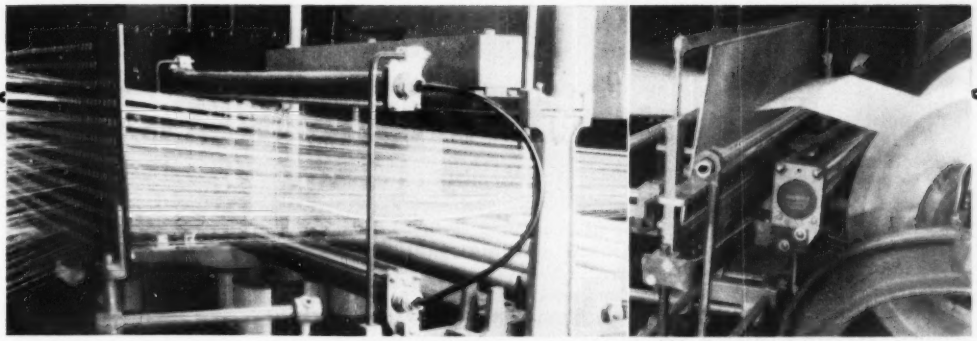


ADEQUATE LIGHTING is essential to creeling and warping. Arrangement and location of light sources are determined by visibility requirements at key points. At Blue Ridge, white fluorescent lamps are mounted along sides of creel, across creel at creel head, and parallel to yarn converging from magazine to warper. Proper illumination makes locating lost ends, trouble shooting, creel stocking, and tying-in of transfer tails easy.

THE ENDS-DOWN ANNUNCIATOR PANEL was moved from center of creel to front side, leaving an unobstructed line of sight down alley. In this way, closer coordination between creel stocker and warper operator is gained.

A SECOND CONVERGENCE BOARD between creel and convergence board makes possible a more gradual step-down in the angle of yarn convergence. This tends to equalize tension across the warp.

TOP TENSION ROLLERS have been dismantled since these interfered with operator pulling thread from creel when running 70 denier 34 filament nylon. On this work it is impossible to pull back thread from the beam.



THREE ELECTRICAL STATIC ELIMINATORS, manufactured by Takk Corp., have been installed at each warper; two are diametrically opposed between second convergence board and first board, and one is located between reed and beam where yarn passes by in sheet form. As a result, static problems such as ridging on spools, ends down, strip-backs, and excessive ballooning are largely dispensed with. With absence of static, relative humidity is lowered to 50%, at which level size softening is inhibited. The three units, supplied by The John Hewson Company, consume the equivalent of 45 watts. The power control unit is mounted on warper. Voltage may be adjusted from between 1500 to 5000 volts depending upon elimination requirements.

Small details play large role in

Tricot Beam Warping

Steps taken at Blue Ridge Textile Co. for improving creeling and beaming operations.

EXCLUSIVE

Staff Prepared

A CHAIN HOIST, electrically operated and mounted on overhead track, is used to handle beams. By such positive beam handling methods, damage to warped yarn is avoided. Beam flanges are grasped securely by tong type carrier. Overhead track leads to storage area for full and empty beams.

THOUGH the tricot industry is essentially standardized through employment of common equipment and techniques in most departments, there still exists a degree of individuality among mills. Practices of operatives are sufficiently distinctive to make for non-uniformity.

End results might parallel, but methods to achieve these results are dictated by local conditions. Generally, the objective is to obtain paramount quality coincident with high production.

A number of new ideas are tried in the attempt; some are rejected after trial and some survive. These are soon written into the tricot mill specifications. During the passage of time the more prominent improvements are universally adopted by the trade.

Typical of the way basic equipment and procedure may be modified to suit individual needs and theories are the operations at Blue Ridge Textile Company's tricot warping department in Bangor, Pa. Here, creeling and beaming operations have been altered with several worthwhile features as can be seen from accompanying photographs.

Effective Training in Textiles

Home study permits students to remain on the job while learning more about new processes, machines, and methods.

UP TO NOW, the military draft has been concentrated on the younger age groups. The government's aims seem to be to increase military production without cutting down peacetime production any more than is necessary. Manpower reports say that some operatives will shift from one industry to another, but that this is not likely to be as sudden or severe as it was in the early 1940's. Industries may thus be keeping most of their top skilled men, but it also means that men of less skill must get intensive training to meet the needs of "double production." There will be fewer new young men coming into textiles. Training must be centered on people already working in the mills. One way this training may be accomplished is through correspondence courses*.

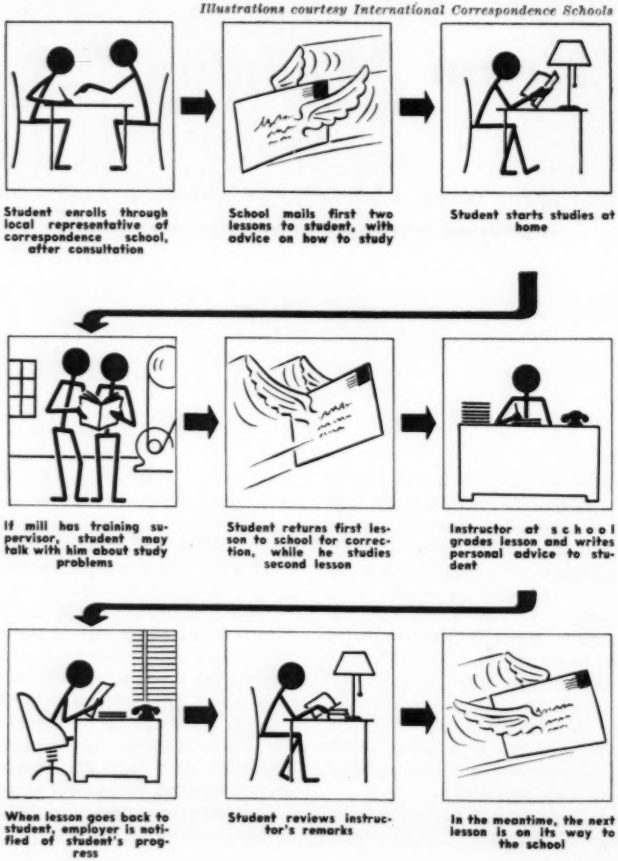
Many of the textile texts used in correspondence courses have been written by engineering and production executives in the industry. Very often it has been the textile industry itself which has suggested that texts on certain subjects be included in the curriculum.

Today, nearly every mill has men studying by correspondence. In many southern mills executives and supervisors are home-study graduates. In one mill, for example, which operates a number of plants, the majority of the mill superintendents and dozens of their foremen are former correspondence students. Many have studied two or three courses; some, four or five.

Today, textile operatives and supervisors are studying many separate textile courses. These range from 19 lessons to 74 lessons each. Some men are studying individually, having enrolled on their own initiative. Others study

Procedure for Study by the Correspondence Method

Illustrations courtesy International Correspondence Schools


Student enrolls through local representative of correspondence school, after consultation
School mails first two lessons to student, with advice on how to study
Student starts studies at home
If mill has training supervisor, student may talk with him about study problems
Student returns first lesson to school for correction, while he studies second lesson
Instructor at school grades lesson and writes personal advice to student
When lesson goes back to student, employer is notified of student's progress
Student reviews instructor's remarks
In the meantime, the next lesson is on its way to the school

*Correspondence instruction in textiles is not new. It began in the late 1800's, when the New Bedford Correspondence School of Textiles developed some excellent courses. Progressive mill management in the United States and Canada has been the main force behind the growth of correspondence training. Employers wanted more and broader training courses. By 1902 International Correspondence Schools had also become prominent in the textile field and had absorbed the New Bedford School. Names of correspondence schools may be secured from National Home Study Council, Washington, D. C.

by Correspondence

By ART MICHEL

EXCLUSIVE

under their companies' training arrangements. Several hundred companies have such arrangements which differ in formality and scope according to each firm's individual needs.

Training Arrangements in the Mill. In checking on how the industry uses correspondence training, it is impressive to note the scope of the text material being studied and the flexibility of the correspondence system. There is no single pattern, and the mills can adjust the training program to fit their particular problems.

In those programs where individuals enroll on their own initiative, management simply announces that courses are available. The individual generally gets advice from his superintendent, or the training director, and enrolls for a course related to his own job. He studies on his own time and pays for the course himself. When he gets his diploma, many companies refund part or all of the tuition cost.

In other mills, training is more systematic. A training director will train new employees at simple jobs and recommend correspondence training to the best of them. Some mills set up regular classes in which study at home is supplemented by supervised discussion.

In many textile training programs, textile courses are not the only kind being studied. Men with little formal schooling study high school courses, to prepare for advanced training. Mill maintenance men study shop practice, instrumentation, and air conditioning. Large mills, which lay out their own plants, train men in architecture and drafting. Besides the obvious advantages of such diversified study, it offers improved labor and community relations, since management can often train local personnel for specialized nontextile jobs without bringing in outsiders.

One fact, which is at first surprising, is the large number of college graduates in the mills who are continuing their studies by correspondence. Then one realizes that these men have learned enough to know they should learn more. Correspondence study adds practical operation to their theoretical knowledge and teaches them the details of different phases of textile production.

How the Programs Work. Each student is registered, instructed, and advised individually, whether he enrolls "on his own" or as part of a group.

Each lesson mailed in is noted and routed to its respective school through an educational service department. The lessons are graded and corrected in the instruction department. Should a student's work or letter show that he has problems, the instructors write to him and explain how he may overcome the difficulty. The instructors are specialists. Each one concentrates on one branch of the textile industry.

The student's grade is noted and sent to his superintendent or the training director at the mill, and if it is appropriate, the employers are informed of each student's progress. That helps the mill keep a "running inventory" of available skills. Finally the lesson is returned to the student (who meanwhile has been studying the next lesson in the course).

In one "text library" there are nearly 2,000 separate subjects, of which about 80 are specific textile subjects. All the texts are filled with illustrations that are drawn or retouched to make the more complicated machinery and processes clear to the student.

CORRESPONDENCE BOOKS and instructions are delivered to the students home by mail, and there is a minimum of delay in servicing each lesson as it is completed.

STUDENT STUDIES instruction books at home in his spare time and can remain on his regular job while learning about new fibers and processes.

Three Basic Organized Plans. There is a "standard plan," under which a firm uses courses as they are listed in the order of study. A "selected units" plan, in which courses are made up of different subjects in special orders of study,

GROUPS OF TEXTILE MEN often schedule conferences wherein they receive instructions with correspondence school books used as the basis for the course.

is used by many firms, and some companies use both plans simultaneously.

A third basic plan is relatively new, and may be called the "selective plan." It was designed to help the mills meet immediate training needs, where five lessons in one course here, ten lessons in another course there, and six lessons in still another course elsewhere should help certain employees do better and bigger jobs.

Under this plan, only the employing company is registered. For a single registration fee, the employer can call for as many different lesson-texts as he wants at any time, at a per-lesson rate. This includes both the text material and correction and instruction service on each lesson. The selective plan doesn't replace either of the others, but is intended for quick supplementary or "refresher" training.

Effect of Correspondence Training. One credit to correspondence training has already been mentioned: the high proportion of supervisory personnel in modern mills who studied by this method. Another is the record of "second enrollments." When a man completes a course, the chances are better than even that he will enroll for another.

A well-organized training program in textile mills usually helps improve production and quality. Students report that the more lessons they complete, the more they appreciate the work of the whole department and of the entire mill. They see that their own operation depends on good work in others, and that others depend on them. Intimate knowledge of a machine and a process produces pride in the job. This pride goes up again when the student knows that his employer has received reports of good marks.

Another factor is this: many operatives fear they will be displaced by new machines and methods. For example, men working in cotton spinning for 30 years may find themselves face to face with the conversion to rayon staple. They get worried by these prospects and their work suffers. But it's significant that men who have studied up-to-date correspondence texts are not afraid of new machines and new fibers.

Many different textile courses are studied by correspondence. Cotton carding and spinning is probably the most popular, closely followed by cotton weaving and rayon weaving courses. Loom fixing is also increasingly in demand because of the many new and improved looms.

The future belongs undoubtedly to the mill which is set up to process all types of fibers. We can expect that the one-fiber courses of today will be replaced by much broader courses as the trend to mixed fabrics becomes more universal. On the evidence of the texts, correspondence students need not worry. At any time they can enroll in a broader course and get new knowledge. Many students do this, because they get credit for all work done previously.

Facts Available. No one pattern in training is suitable to all mills, and the exact experience of a given mill may or may not be a guide to the executive of another mill. Nor is there any official "clearing house" where such experience has been gathered and classified. The National Home Study Council in Washington, D. C., can supply the names of correspondence schools.

To find out about correspondence training in terms of the student, there is no better way than to talk to executives, supervisors, and other employees who have completed courses. Anyone who plans to install correspondence training or make it available may find the opinion of correspondence graduates a reliable guide in talking to employees about it.

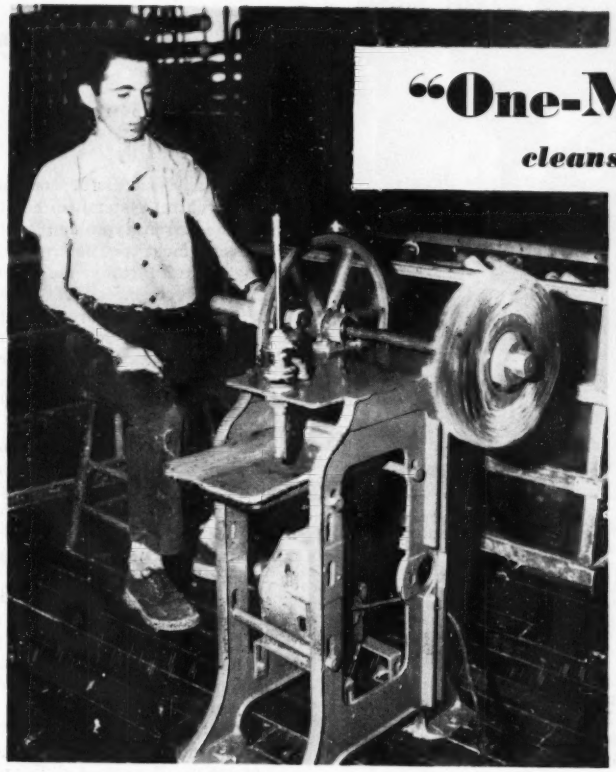
Employee Interest. Employee publications are a "close to home" medium to make the employees aware of the training that is available. For example, one mill publication said last October: "The Blank Company has encouraged employees to take correspondence courses whenever the course would help the operator on the job. The company will pay one half the net cost of a correspondence course when certain conditions are met."

In another publication, the promotion of two employees to supervisory positions was announced. The fact that both took correspondence courses was mentioned. This mill has a very active training program. Employee publications in mills all over the country similarly encourage correspondence training of their employees.

The Job to be Done. The need for more and more training is apparent in the struggle we face for more and better production. Anyone who investigates will find that the correspondence system is ready with up-to-date text material and effective teaching methods.

The mills can "bring the school to the man" and keep him on the job as he trains for a bigger job. To some mills this method will be almost new. To others already familiar with correspondence schools, a fresh and a more systematic approach may make it more effective among their employees. The material for a thoroughly systematic job is certainly available.

Textile history shows that correspondence training has done a big job so far. But it's nothing compared to the job that could be done if more of the correspondence study now going on were fitted into organized programs planned by management and supervised by management.



"One-Man-Band"

cleans bobbins and brushes

Device made in mill machine shop is also used for painting bands on bobbins to aid in identifying stock in process.

Staff Prepared

EXCLUSIVE

TWO EMPLOYEES of Textiles Incorporated's Victory Mill, in Gastonia, N. C., designed and built a machine for maintenance of bobbins, roller brushes, and comber dusters (see illustration). T. G. Adair, carder, and Ira L. Smith, master mechanic, built the machine to replace their old method of bobbin cleaning and painting.

Old Method. Formerly, a brush mounted directly on an electric motor shaft was used for cleaning bobbins. After the cleaning operation, bobbins were mounted directly onto the shaft and identification bands were painted on them.

The motor shaft turned too fast to permit a good job of painting, and the bobbin turned so rapidly that the paint was thrown all around the working area.

New Method. The new machine is mounted on a frame made from two sawed-off spinning frame sampsons held together with a steel top plate and stay bolts. A ¼-hp electric motor is mounted on the frame and employs a V-belt to drive a large pulley which turns on a shaft fixed in two bearings at the top of the machine. Speed reduction from motor to shaft is 7:1.

On the outside end of the shaft a 3-in. chimney brush is installed for use in cleaning bobbins. The operator in the accompanying illustration is shown in the process of cleaning a bobbin on the brush.

On the other end of the shaft is a steel wire burnishing brush, which is used to clean roller brushes and comber dusters.

At the front of the machine, mounted through the top plate, is a winder spindle which can be driven by a band attached to the main shaft. Bobbins are placed on the spindle, and while turning at a relatively slow rate of speed, bands may be painted on them. The tray below the spindle, which was made from a starter box cover, is used to hold cups of paint when banding the bobbins.

The machine is located in an open space at the end of the spinning room, and it is quickly accessible to carding and spinning maintenance employees. According to Mr. Adair, the new machine requires less time and does a much better job than the old method permitted.

Weave

IMMEDIATE INSPECTION is necessary so that defects may be traced to the source while still "warm." All pieces should be inspected as soon after weaving as possible. In this way, repetition of the defect may be averted.

THE AUTHOR of this article has had considerable experience in the carpet industry. He has seen first hand how supervisory controls can bring in greater profits. A typical, workable procedure is outlined here. It may be used with equal success in other departments besides weaving.—Eds.

MOUNTING competition has brought forth an urgent need for prompt planning and greater control to improve efficiency and production. Considerable time and money for mechanical improvements may be expended; however this effort may be wasted entirely if it is not accompanied by a sound program of personnel supervision and product inspection.

One large carpet mill recently instituted a fairly simple supervisory (quality) control program. As a result, within a short time imperfect products were halved to the tune of almost 100,000 dollars.

How did they do it? The question may be answered by showing how supervisory control was established in the carpet mill's weaving department. First, a four point plan was drawn up. The plan included:

(1) Measures for enforcing adherence to loom operation specifications.

(2) Weekly reports of weave room defects as detected in burling and mending.

(3) Evaluating weavers for ability and cooperation.

(4) Rationalizing weave room defects, and preparing a plan of action to cope with each defect.

Weaving Defect Report. Look before you leap! This simple axiom underlies any successful control. Before a control system can be effected, the current types and levels of defects must be determined. Through careful study the more prominent categories of "bad work" may be discovered, attacked, and further measured for signs of improvement. An "Imperfect Product Report" (see illustration) provides much helpful information.

A list of all known weave imperfections was compiled, and a memorandum describing each was distributed to the weaving and finishing departments. As each piece of goods passed through final inspection, the yardage double-X'd or seconded was tabulated according to type defect. At the end of a week, yardage in each category was totaled and divided by total production to determine the percentage of defective yardage.

Consolidation of all such reports serves to indicate the percentage of defects in all product divisions and groups. After quality has been brought to the desired practical level, weekly reporting may be abandoned for reports at less frequent intervals.

In order to keep the quality picture constantly in the minds of foremen, send them copies of the reports with appropriate comment. Each supervisor will then have opportunity to compare inter-sectional progress. Incentives may be added. Reward the weaving section showing the most improvement or the lowest output of seconds.

Proper use of the report immediately spotlights areas where quality control may be made to function more vigorously. When the quantity of defects depicts a rising trend or insufficient improvement, new studies of the problem are in order.

Weaving Specifications. Reporting serves only as a barometer of

Room Seconds Can Be Reduced

By instituting a sound program of personnel supervision and product inspection, a carpet mill cut in half its production of imperfects.

EXCLUSIVE

By **ROBERT POSEY**

seconds production. Results of the weavers' work are so measured. Thus, control naturally begins with the weaver.

Detailed instructions describing ways of avoiding common defects should be attached to the loom in plain sight of the operator. At the same time, the weaver should be advised in writing of the penalties involved in violating the specifications. Verbal instructions are ineffective. If one carpet mill's experience may guide, more than 50 per cent reduction in seconds can be expected.

The following directive was issued to Axminster weavers:

FIRST. On starting a setup, *examine* and *correct* all frames and spools for tension and sideplay. *Brush* and *comb* yarn ends and maintain uni-

TABULATED REPORT (left) shows incidence of various types of defects in the cloth. When such information is readily available, the mill is in a position to find the cause and remedy with a minimum of delay. The record serves as a dependable indicator of the quantity of seconds produced and also as a basis for an incentive system to reward cooperative weavers. Mill progress is related in a report (right) which shows figures and results of the total effort of supervisory controls to reduce seconds. Defects may be broken down by product division and group.

THE BLANK MANUFACTURING COMPANY

IMPERFECT PRODUCTION REPORT

PRODUCT DIVISION: AXMINSTER — PERIOD FROM X/1/50 to X/X/50

PRODUCT GROUP: AXMINSTER WIDE RUGS — CUMULATIVE FROM X/X/50

CAUSES	Percent Imperfect Period	Cumulative	1949	COMMENTS
YARN	-	.05	-	
Oil Stains	-	.01	.05	
Grease				
Streaks				
Twist Defects				
Thin & Heavy Yarn				
PRE WEAVING	.16	.18	1.38	
Spools out				
Wrong ends	-	.01	-	
Base defects				
Reversed spools				
WEAVING	2.07	2.15	2.14	
Low rows	.44	1.61	1.61	
First off	.14	.08	.10	
Floats	.57	.21	.44	
Bad selvage	.08	.57	.88	
Bad start	-	.10	.24	
Yarn on back	.65	.10	-	
Grease on back	-	-	.06	
Grease on face				
Repeat spools				
No bonding				
Smash				
Wrong spools	-	.01	.08	
Double shote				
Broken shots				
Wire defects				
Floating tufts				
Damaged in fin. room	-	.09	-	
Dip out	-	.01	.03	
FINISHING	-	.03	.15	
Shearing defects	-	-	.13	
Crooked				
Odd sizes	-	.18	.29	
Starch on face				
Damaged in fin. room	-	.02	-	
Fire				
GRAND TOTAL	4.31	5.41	7.58	

THE BLANK MANUFACTURING COMPANY

IMPERFECT PRODUCT REPORT

PERIOD FROM X/X/50 TO X/X/50

CUMULATIVE FROM X/X/50

PRODUCT DIVISION and GROUP	PRODUCTION - SQ. YDS. PERIOD	CUMULATIVE	IMPERFECT - SQ. YDS. PERIOD	CUMULATIVE	% IMPERFECT PERIOD	CUMULATIVE
AXMINSTER						
Wide Carpet	XXXX	XXXX	XXXX	XXXX	.67	2.30 3.58
Narrow Carpet	XXXX	XXXX	XXXX	XXXX	-	.33 2.61
Wide Rugs	XXXX	XXXX	XXX	XXXX	4.53	5.96 7.58
Narrow Rugs	-	-	-	-	-	- 2.66
TOTAL	XXXX	XXXX	XXXX	XXXX	1.66	3.54 4.69
VELVET						
Wide Carpet	-	-	-	-	-	- 1.06
Narrow Carpet	-	-	-	-	-	- 12.00
Hard twist Carpet	XXXX	XXXX	XXX	XXXX	2.29	17.77 10.44
TOTAL	XXXX	XXXX	XXX	XXXX	2.29	17.77 9.78
PLANT TOTAL	XXXXX	XXXXX	XXX	XXXXX	1.57	5.34 5.46

form yarn lengths on spools.

BAD START-UP. When starting up, *stop loom* with knives open and comb up. *Check* for bad start-up. If bad, *rip out.*

BAD SELVAGE. Loom must be constantly watched for quality of selvage. If selvages are *drawn in, too wide,* or otherwise defective, *stop* loom, *show* to fixer, *rip out.*

LOW ROW. When the first spool in a set runs out, *notify* foreman *immediately.*

Finished Goods Inspection. A system for the diligent inspection of finished goods must be incorporated in any control program designed to reduce seconds. Goods should be checked for defects as soon after weaving as possible so that they can be followed-up while still "warm."

Upon discovery of bad work, the loom and weaver number as well as the piece identification and defect should be noted and forwarded to the weave room. A prompt follow-up can avert repetition of the defect.

If a weaving specification has been seriously violated, the foreman, union shop steward, and weaver should jointly examine the damaged piece. A fair appraisal would reveal whether or not negligence was the cause. In such a case, appropriate disciplinary action can be taken. In one carpet mill where bad start-ups, selvages, and first-off pieces (all weaver faults) amounted to two per cent of department production, use of the procedures mentioned cut the figure in half.

Evaluate Weaver. The weave room control program may be beneficial in another way. Through analyses of seconds records, the weaver's job aptitude may be easily established in terms of quality and production.

Imperfect product reports can be broken down according to weaver. After a three month period, for example, review the data pertaining to individual weavers in order to determine:

(1) Square yards of bad work woven by weaver.

(2) Pieces of bad work produced by weaver.

(3) Total pieces and yardage produced by weaver.

(4) Percentage defective pieces and yardage produced by weaver.

(5) Average per cent defective pieces and yardage produced by all weavers.

(6) Average total production of all weavers.

A review of the data will pinpoint any weaver having an abnormal output. Some looms or sections with below par records may be brought into sharp focus and the responsible fixer brought to bear.

Acquaint appropriate individuals with the facts. If incomplete training is the cause of poor production or excessive seconds, the individuals must be prepared to undergo further instruction. Inferior weavers may be sidetracked to a less complicated loom or transferred to an entirely different assignment. A 20 per cent reduction in imperfect work resulted when one mill weeded out its less capable weavers.

On the other side of the ledger, reward the weaver having the best quality record. The rest of the force will be encouraged to do a better job.

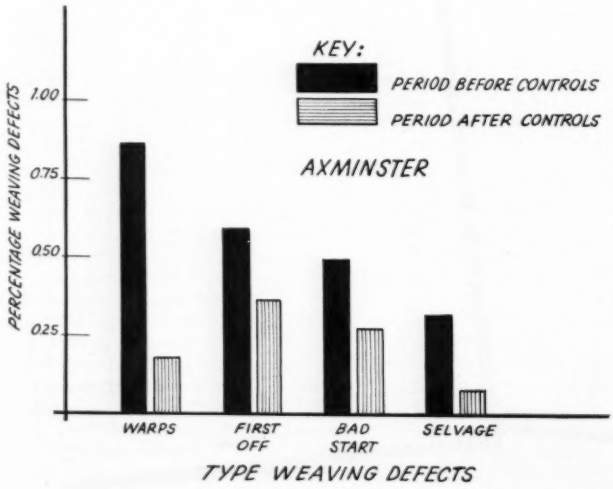
Some illuminating information developed when the forementioned carpet mill, contrary to standard practice, tried out women as operators on wide looms. The imperfect product reports indicated that two female weavers were the most efficient. The two happened to be the only females employed in the department. As a result, the door opened for additional female weavers.

Report Committee. For coordination of the program it is advisable to delegate control authority to a qualified representative group. Plant technical production personnel and cost experts should be called upon to serve as qualified representatives. Blending ideas from such a varied background of experience helps to conceive a more balanced, workable program.

The committee's objective after studying seconds reports, is to set up a course of action which will include member task assignments and target dates for task completion. The committee's first meeting

(*Continued on page* 205)

ACTUAL SECONDS REDUCTION in one carpet mill, after controls were instituted, is shown in the bar chart. The sharp decline in warp type defects is attributed to stop motion devices perfected under a plant control committee. Overall reductions are results of planned program including weaving specifications, selective training of weavers, fixers, and examiners, and improved methods of supervision and inspection.



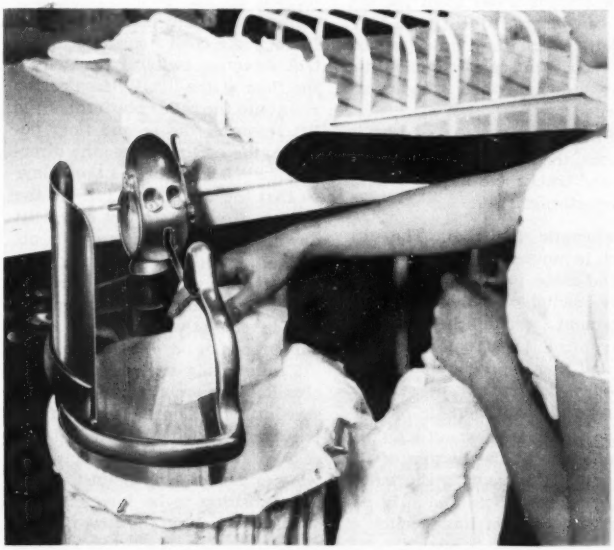
The Thing

Staff Prepared

EXCLUSIVE

NO BUG-EYED MONSTER from outer space is this weird character. He is a loyal American born and raised in Reading, Pa. Fritz Flibbertigibbet alias Egghead the Brain is his monicker. Egghead is the "Reading" dozens counter so popular with the lady examiners at Berkshire Knitting Mills.

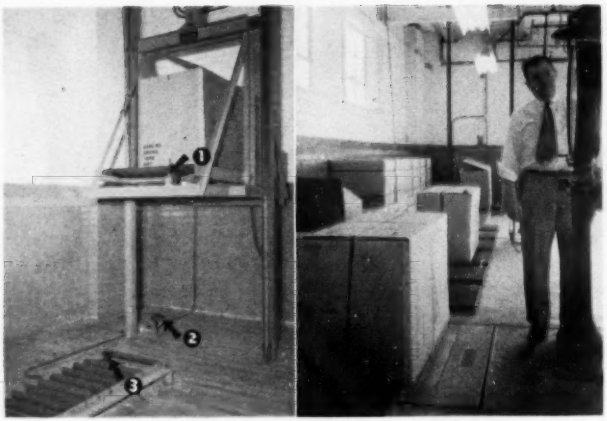
When the Berkshire gals close their eyes at night, their chances for a deep, sound sleep are nil. Egghead frequently puts in a nocturnal appearance. The innocent looking daytime stocking counter rematerializes as a leering, calculating kind; a midnight menace. Without doubt—mesomorphic. And why the circles under our hero's sunken orbs? Well, if you were "tweeked" all day long by a pretty maiden. . . .



Egghead is a product of J. Earl Ruthardt's imagination. He's the editor of "The Yarn Carrier," published monthly by Wyomissing Industries for its employees.

Actually, none of the ladies has complained about her nightmares. Why should they. The Thing is simple in design, sturdy in construction, and efficient on the job. It requires the light touch of a finger for its operation as the stocking is removed from examining forms. When the 24th stocking passes over the index pin (Egghead's cig), it is automatically locked. The dozen thus counted is tied and dropped into the mesh bag. Flicking the lever on Egghead's bonnet will release the counter.

The dozen indicator disk is set to lock automatically at any point between 1 and 10. It can't be released except by resetting the disk to zero position. This removes the danger of having more than the desired number of dozens in any particular bag. Being mounted on a swivel bracket, it is readily adjustable to suit the individual operator.



VERTICAL CONVEYOR lowers a case of yarn (left) from second floor to first. (1) is direction switch which determines whether "up" or "down" relay is operative. (2) is limit switch which stops lift when it is in position on first floor. (3) is starting switch which starts the conveyor upward on its return trip. Roller conveyors (right) and the lift (background) deliver cartons to first floor where they are weighed. H. D. Scoggins, superintendent of Rush Plant observes weight indicated on scale.

LAYOUT and function of conveyor system may be seen in the sketch on the opposite page which shows components on both first and second floor levels.

Vertical Conveyor Handles

A NEW AND INGENIOUS vertical conveyor has been in operation at the Rush Plant of American Yarn & Processing Co., Mount Holly, N. C., for several months. The conveyor moves cartons of yarn from the winding room on the second floor to the area below, on the first floor, where cartons are strapped, weighed, and temporarily stored. The temporary storage area is near the loading platform, from which the yarn is shipped out in truck-load lots for dyeing.

The conveyor system includes a vertical lift and two lines of stationary gravity roller conveyors. Filled cartons are loaded onto the second floor section of the roller conveyor and roll down the slight incline and onto the lift platform. The lift platform is also made up of rollers, so each carton ends its movement in place on the lift.

Automatically, when a carton is in place, the lift moves down to the first floor. A guard comes up as the lift goes down, halting any other cartons on the line until the lift is back in place to reload. The lift tips slightly and stops when it reaches the first floor. The angle of tilt is enough to roll the carton off onto another section of roller conveyor sloping away from the lift. The cartons roll down to a level section, where they are strapped, and then to a scale section in the conveyor where their weights are recorded.

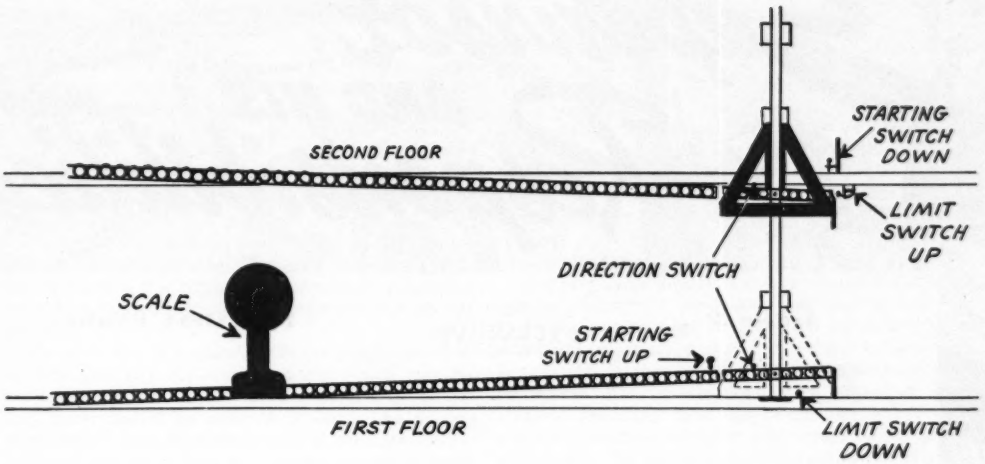
At the end of the roller conveyor sections, the cartons are picked up on hand trucks and moved to temporary storage.

Automatic Switches. The lift, which is moved by an electric motor and cable, is controlled by a set of five switches. Although the arrangement accomplishes remarkable control, it is actually very simple, and there is no equipment involved which cannot be serviced by any mill electrician.

Two limit switches, one on the top and one at the bottom of the run, cut off current to the motor and bring the lift to a stop in position. The bottom limit switch is mounted under the lift shaft on the first floor so that the frame of the lift hits the switch at the bottom of the run, stopping the movement. The upper limit switch is located on the second floor, and contact with the frame stops the lift at the second floor level.

A direction switch is located on the floor of the lift. When a carton rolls onto the roller platform of the lift frame at the second floor position, the carton strikes the direction switch and throws the relays so that the motor will turn in the proper direction to let the lift down. When the carton rolls off at the first floor, it rolls back over the direction switch, and the relays are reversed so that the motor will run in the other direction when current comes on.

Two starting switches close the circuits so the motor will run. The starting switch on the second floor is a contact switch located at the rear of the lift and is actuated when a carton runs against it and is in position to be lowered. The starting switch on the first floor is



Yarn Cartons Automatically

Moves cartons of yarn from the winding room on the second floor to the area below, on the first floor, where they are strapped, weighed, and stored temporarily, pending shipment by truck to dye plant.

EXCLUSIVE

Staff Prepared

located on the first section of roller conveyor the cartons travel over in rolling off the lift. The first floor starting switch is tripped when a carton has moved completely off the lift platform. Function of the first floor starting switch is to close the circuits and start the lift on its return trip upward.

The automatic sequence of operations is: (1) a carton rolls onto the lift platform, tripping the direction switch to the "down" position. (2) When fully on the platform, the carton touches a starting switch at the rear, and the lift moves down to the first floor. (3) When it reaches the first floor, the frame of the lift strikes a limit switch and the motor stops. (4) The carton rolls off the tilted platform and again strikes the direction switch, moving it to the "up" position. (5) Moving off the lift platform and onto the first section of the roller conveyor, the carton strikes a starting switch, and the lift moves back to the second floor. (6) On reaching the second floor, the frame strikes a limit switch, cutting off the motor. The lift is then in position to receive another carton.

The whole conveyor system is completely automatic and requires no operators from the time the cartons are loaded onto the second floor roller conveyor section until they are strapped and weighed on the first floor.

The system was designed by Jim Lakin, engineer for American Yarn & Processing. Physical design and construction was by Davidson Engineering Co., Winston-Salem, N. C. H. D. Scoggins, superintendent of the Rush Plant, says it is doing an excellent job and has considerably simplified the handling of cartons of yarn.

*Article 5**

EXCLUSIVE

By RAMON PARKS

Machinery Maintenance

IN RECENT years some mills have instituted a system of *preventive* maintenance, headed by an individual who is sometimes called superintendent of maintenance. His organization functions as a separate department, with crews of oilers, mechanics, etc., in the various departments of the plant. In cases of this kind the supervisor is relieved of most of his responsibilities with regard to machinery upkeep and repair.

Most mills, however, operate under the conventional system whereby the foreman is responsible for the maintenance and repair of his machinery. This article was prepared with this type of set-up in mind.

Each department can and should have its own system of preventive maintenance. It is much better to keep a machine in good condition by an occasional overhauling, when the overseer can have some choice in the time when this is to be done, than for the machine to be run until it breaks down and possibly at a time when it is most needed.

Lubrication. One of the best *preventive* measures is proper lubrication of the machinery. The foreman is well paid for any amount of time and trouble that he takes in following up his oiling program. If he does not already have oiling charts or oiling instructions for his various machines, he should make up his own charts after making a survey of the lubrication requirements. (Most of the leading lubrication concerns will be glad to furnish assistance in selecting the proper kinds and grades of lubricants for the various types of bearings or other points requiring lubrication.)

Oil and grease containers should be of the proper type to prevent waste when filling oil cans, grease guns, etc. The applicators should be of the correct types for the oiling jobs to be done.

Some overseers prefer that all lubrication be done by the men who are to repair and maintain the machines. Other foremen find that regular oilers do a better job than a man who has so many other responsibilities. Whoever does the lubricating should be trained to do the job correctly; then he should be followed up periodically by the overseer and his assistants.

Machinery Inspection. Next to proper lubrication perhaps the most important step in machinery maintenance is the periodical inspection of all the machines in the department by the overseer, the second-hand, or some other competent person. This inspection may take the form of a *complete inspection* of the *entire* machine, or *certain parts* on *all* of the machines in a department.

For example, all of the spinning rings might be checked to determine whether they should be turned or replaced with new rings. In the card room all of the lickers-in might be inspected to find those which require rewinding.

To assure complete inspection, a form which lists all of the essential parts of the various machines in the department should be provided the inspector. If the mill does not provide such forms for every depart-

*The first four articles of this series appeared in the June, July, August, and September issues, respectively. Article 1 had as its sub-title "Hiring and Training"; Article 2, "Employee Relations"; Article 3, "Cooperation"; Article 4, "Planning Your Work; Delegating Responsibility."

Reprints of individual articles will not be available. However, if the demand for the entire series is large enough, it will be placed in booklet form. Write the editors if you are interested.

ment then the overseer of each department should make his own forms.

What To Do After Inspection. The time spent inspecting the machines is wasted unless steps are taken to make the necessary repairs, the need for which has been revealed by the inspection. A decision must be made by someone in authority as to the extent of the repairs and overhauling which are to be done. If the foreman has the direct responsibility for the maintenance of his machinery, he should make the final decision. In most cases he will personally reinspect the parts reported to require major overhauling. Naturally, if a large outlay of money will be involved he will call in the superintendent for his approval.

The next step is to check with the supply room to be sure that any replacement parts which may be needed are on hand. If they are not on hand the necessary parts should be ordered at once. The master mechanic or shop foreman should be consulted in regard to items which may be repaired or reconditioned in the shop. This will enable the shop foreman to make the necessary arrangements to take care of the extra work which is involved when a department starts a major overhauling program.

The next consideration is the overhauling crew. Most of the medium and larger departments have at least one man, called by various titles, depending upon the department in which he works and other factors. In the weave room he may be called head loom fixer; in the spinning room he might be designated as overhauler; in the card room he would probably be known as the head grinder.

In practically every case this individual's promotion was due largely to his long experience and skill. So long as he works alone (or perhaps with one section man) his mechanical ability and knowledge of the particular machines on which he works are sufficient. But when he is called upon to lead an overhauling crew he needs something more than mechanical knowledge and skill—he must be able to lead and direct a group of men, some of whom will probably be unskilled, and some may even have no knowledge whatever of the machines being overhauled. If the regular overhauler is not a good leader then it is usually best to put some other person who is a better leader in charge.

The overhauling crew should be large enough to get the necessary work done, but not large enough to get in each other's way. The leader should assign definite work to each member of the crew or team, so far as possible. This, of course, makes for better efficiency and prevents some individuals from dodging their rightful share of the work.

If only a limited amount of overhauling is to be done, or if there is a sufficient number of machines so that one can be stopped for as long as necessary to have needed repairs made, then it is usually best to use only the regular overhauler, with, perhaps, a helper. Better work could be expected under these conditions than would be the case where a larger crew of more or less unskilled labor is used.

After the machines are overhauled they should be thoroughly lubricated and started up, in some cases without any stock. The supervisor or one of his assistants will then give the machine a careful inspection before releasing it to start in production. In the event any gears have been replaced, it would be well to have tests made to be sure that the resultant product is correct.

In a very large department it is usually possible to have a program of continuous overhauling, and the machines can be kept in top-notch condition. In a smaller room such a program would not be practical nor needful. In the first place, the machines could not be spared from production every three or four months, assuming that the overhauler would get around that often. Also, the cost would be too great. And finally the average machine would not require a major overhauling more often than once a year or longer.

In a department where only a comparatively small number of machines is involved, the machines should be inspected frequently and needed repairs and replacements made at any time the machines can be spared from production. Major overhauling may have to be done on a weekend or holiday shutdown.

Maintenance by Section Men. So far we have discussed overhauling and preventive maintenance as applied to the department as a whole. We should consider the part which the regular section man plays in the maintenance program. The overseer is responsible for the selection and training of his section men. (The term "section men" as used here includes also loom fixers and card grinders.)

The overseer should cooperate with his section men by providing them with all the necessary facilities and supplies for the proper care and adjustment of the machines on their sections. In some cases all necessary tools will be furnished. In most mills, we believe, the fixer furnishes his own small hand tools, but larger tools, power tools, work benches, vises, etc., are furnished by the mill. The overseer should encourage his section men to keep their tools in good condition and their work benches orderly.

Supplies should be made available for use as needed but should not be wasted. Excess supplies kept in the section man's work bench may rust, become corroded, or otherwise damaged and unfit for use. A limited amount of extra supplies, properly taken care of, will save the section man many trips to the supply room, but care should be taken to prevent waste of such supplies.

Frequently broken parts can be welded or otherwise reconditioned so that they will be almost as good as new. Each overseer should insist that no major parts be scrapped until inspected by him or one of his assistants. One mill provides a partitioned box in the repair shop. Each department has a section of the box properly marked to receive all metal scrap

and broken or worn parts. Once each week the superintendent or the assistant superintendent meets with the overseers at this scrap box. The results have been all that could be expected; in fact, many parts which would, under normal circumstances, have been discarded, are repaired rather than being thrown in the scrap box.

Many overseers who can get very good results from their section men on one shift, have trouble when on a two or three-shift basis . . . too many fixers are prone to pass the buck. We know of one card room, on two shifts, which has materially helped this situation by assigning certain cards to each grinder for grinding and setting. In other words, the sections are divided in half; the grinder on the first shift takes the first half of the cards, while the second shift grinder is responsible for the other half. In this way there is no passing the buck if a certain card is not ground or set properly. Naturally each grinder is responsible for keeping all the cards on the entire section running during his shift and does any necessary repair work to achieve this end.

Sometime ago we were conducting some visitors (mill men) through the weave room in our mill. These men made a rather close observation of some looms and were highly complimentary in their comment on both the excellent mechanical condition of the looms and the settings of the various parts. Some section man (fixer) was "on the ball." This kind of section man is the pride and joy of the overseer who really feels his responsibility regarding machinery maintenance. *(To be continued)*

Knitter Hints No. 36

Prevent Pull Threads! Use Hand Lotion

ROUGH HANDS are the cause of many pull threads. Apply HAND LOTION regularly and keep them smooth.

Note to Management: It pays to provide at all times hand lotion in convenient places, easily accessible to operatives.

EXCLUSIVE

This Knitter Hint appears through cooperation of Charles O. Simms.

Tips for Woolen and Worsted Mills from The Editors' notebooks

EXCLUSIVE T.I.

Self-scouring wool oils finding wide acceptance among carders are said to be chief cause of tape deterioration. Best method for counteracting is to dress leather with neat's-foot oil. For economy and simplicity use a spray gun. Much better than swab or brush. Saves labor. Forty to fifty pounds at the portable air compressor will spray. Usual pressure in mill air lines is adequate to do the job.

Here's how to run Vicara on the cards. Handles almost identically to rayon. Spools wound soft since roving slips on drum. Aprons set farther from tapes than in the case of wool. Better results obtained on tapes; the Vicara fiber clings to rings. No static trouble under normal card room humidity. Emulsion is 1 part oil, 3 parts water, applied 22% by weight of wool. Can be run with or without Peraltas. If fiber clings to comb blade, slow comb. French chalk will prevent stock from winding around bottom dividing roll. Under these conditions, one mill produced 37 pounds per hour of a 3 run 100% 3½" staple Vicara on a 48" card.

Want to reduce waste in card room? Use grids set 24 gauge to cylinders and doffers. Clean every three months or oftener, depending on stock. Nothing objectionable about grids when mill is on long runs. On short runs, stock may pick up droppings of different color from previous runs clinging to grid. Hard to drop grids when changing lots. Brush to clean from inside. Some say repairs offset waste savings. Vacuum cleaning system helps keep grids clean while on cards.

What kind of fancy is preferred for 100% nylon stock on wool card? Recommended: coarser wire, more open set, higher fancy speed. Nylon, depending on denier and staple length, may pull back cylinder wires; may also change pitch.

Dyeing

THE TEARING TEST. Stockings (ladies) were torn apart by hand. If stocking held up or did not come apart, it was okeh.

BLEACHING WOOLEN YARN. A white hot horseshoe was dropped into a pot of roll sulfur, and everyone ran out and closed the door.

What are the past years?
They are a book, on which
All men, should sometimes, backward look.
Not willing quite to see it close,
For hours of fun, and petals of rose
Within its heart are thickly strewn
Marking life's dawn and golden noon.

Anonymous

ON A PROMISING summer day in the year 1900, a young fellow just out of textile school answered an advertisement for an assistant dyer, wanted by a dye works processing cotton hosiery. The "works" turned out to be the Franklinville Dyeworks, then located at Fifth and Luzerne Streets, in Philadelphia, Pa. The owner introduced himself as Robert Meyer.

"No Noise and Enter." After giving the "boss" a quick picture of his family background, the young fellow was taken into the dyehouse and initiated into the art and mystery of dyeing. That day was the beginning of a life devoted to the chemistry and practice of textile processing. There we learned how to prepare standard dye mixes for coloring hosiery. The stockings were brought in 50 pound bags direct from the knitting machines to the dyetubs. Those which had been given an overdose of knitting machine oil and steel grindings, had of course, to be scoured before dyeing.

The shades were for the most part "cadet blue" and a dozen shades of "leather tan," with occasional lots of black. The dyes used were the direct cotton colors which by that time had become quite popular. But the real blacks—the laundry-proof blacks on hosiery—were produced by means of aniline salts and after-treated with bichromate of potash to make them "ungreenable." The after-treatment was done because aniline blacks were known to develop a real green cast, if not fully oxidized before finishing.

Hermsdorf Black. The entire process was based on the world famous "Hermsdorf Schwarz" or Diamond Black, which had originated in the small town of Hermsdorf near Chemnitz, Germany. The cotton stockings were impregnated in a tank-like wood machine known as a tom-tom. The machine was a modified trip-hammer, and when six of the tom-toms were operating at the same time, they gave forth a sound like the day of Judgment and Bedlam put together. When the stockings had been pounded for a reasonable period, a sample was drawn from the batch, stretched over a wooden leg-form, and laid on a screen in the drying-closet. When the sample was taken out of the closet, it was given an optical inspection to see if a good black had been produced. Then the stocking was given a tearing test by pulling it apart by hand. If the stockings withstood a fair "tearing test" in this way, we proceeded to finish and singe the entire lot. In regular production all the fine lisle-thread hosiery was given the final singe by passing it at high speed over the flames in a gassing machine.

120 Days of Wool. After four months spent learning all about the dyeing of cotton hosiery, the young fellow went to the woolen yarn dyehouse of Jacob Berges and Sons in the Kensington district of Philadelphia. Here woolen yarn "in the oil" was received from the large spinning mills of Passaic, N. J., and stored in huge warehouses until spinning orders were received. At the turn of the century, about half the colors used in the woolen yarn dyehouse consisted of Logwood for black, indigo carmine paste for blue, Quercitron for yellow, and Cochineal was used for scarlets and fiery reds.

Logwood arrived at the dyehouse in the form of chips. These were filled into strong burlap bags, and given a thorough boil to extract everything that could possibly be boiled out. Quercitron bark had risen to the point where the dyers could buy it in the form of a water-paste or extract. It was used to produce brilliant yellows having a red cast.

Some of the indigo was purchased in the form of large lumps. The dyers would grind the indigo to a fine powder in a ball mill, then treat it with strong sulfuric acid to convert it into Indigo-carmine paste. Cochineal bugs (insects) were imported from Mexico in the dry form. They were carefully ground to a powder, and finally extracted with nitrate of tin or with tin chloride.

at the Turn of the Century

By **DR. FREDERICK DANNERTH**
Industrial Research Chemist and Chemical Engineer

EXCLUSIVE

The material yielded beautiful scarlets on wool, but at the turn of the century it was being rapidly replaced by the more-easy-to-handle coal-tar colors. Madder root had already faded out of the picture because of the synthetic alizarin which had been invented by Graebe and Liebermann as far back as 1868.

Yarns for Snow White. The problem of producing clear whites on woolen yarns, was somewhat more complicated than it is today. A bleach-house was built in the form of two adjoining rooms, so that the doors on one part could be closed while the other half was being loaded. The house was built of wood, arranged with several window openings which could be closed gas-tight before the operation began. A large horse shoe was needed for the bleaching process. There were plenty of horse-shoes available in the year 1900.

When an order came through to bleach a lot of woolen yarn, the chief engineer brought forth a large iron pot, twelve inches deep and large enough to take the horse-shoe easily. The iron pot filled with roll sulfur was carried over to the bleach house. The scoured yarn, still wet, was carefully placed on long poles and placed in position in room No. 1. Finally the "shoe" was heated in the firebox, by the chief engineer, until it had acquired white heat. The engineer blew a whistle, dropped the "shoe" into the pot of sulfur, and in the next split second, all hands rushed to close and lock the one remaining opening—the front door.

The procedure called for good timing, because the operator had to get his face out of the bleach house, and he also had to close the front door before much of the gas escaped. After the necessary hours had elapsed, the doors were opened, the house was aired, and the yarn, now a pristine white, was removed for drying and shipping.

With fifty dyeing vats or tubs in continuous operation, the Berges dyehouse was of some importance. The men who came for the weekly dyestuff orders were none other than the sales managers themselves. These were the men in charge of the Philadelphia offices of the various German dyestuff concerns. As he watched one of the operators loading the "whizzer" or hydroextractor, a representative of the old Farbwerke Hoechst Company casually remarked: "I wonder what would happen if you were to put a man inside the whizzer instead of that yarn?"

How Shall We Match This Shade? There was a continuous flow of orders for tan, gray, and brown; therefore the business of color matching would have to be mastered sooner or later. So the young fellow stood-by attentively as the boss dyer proceeded to match a shade. "Well," asked the apprentice, "how shall we go about matching this gray?" The boss glanced at the sample swatch, picked up the long handled spoon, and gravely opined: "A shade like this calls for a little red," and with

(*Continued on page 239*)

MATCHING COLORS. "A shade like this calls for a little red, a little yellow, and a little blue. Just be sure that you don't use too much of any one of the colors."

CALICO PRINTING. The method of fixing the mordant on the fiber seemed so unesthetic that the young fellow decided to keep away from all calico printworks.

Practical Terry Weaving and

IN THE FIRST article* of this series the basic principles of plain terry cloth were discussed. The drafting plans required to weave this type of material were given. The design of a towel having different color loops on the face and back with reversed borders (Fig. 5, Article 1) was the beginning of trouble for the designer and weaver. For such a design and the more complex designs to be discussed in this article, a more completely equipped loom is needed.

The Terry Loom

THE MODERN terry loom should be equipped with the following:

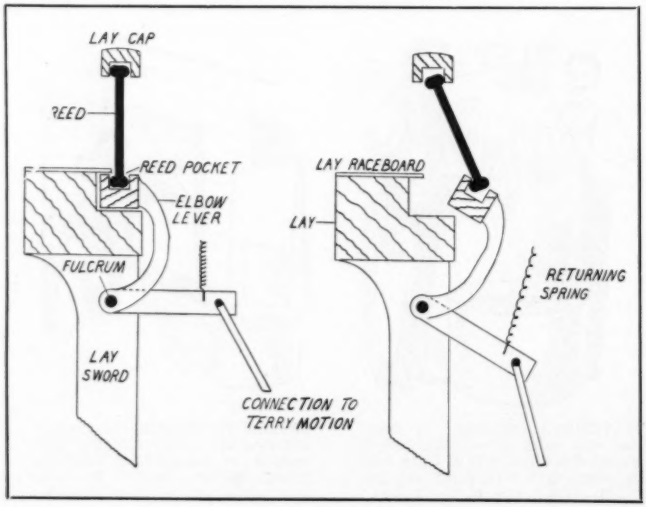
1. A 4x1 box motion.
2. A 4-cell, color selecting magazine for automatic bobbin changing.
3. A 20-harness double-cylinder dobby with automatic selection of cylinder.
4. A special reed motion automatically controlled to beat-up either every three picks or each successive pick as required to produce the desired pattern.
5. A retarding mechanism for the pick motion in order to cram more picks per inch when changing from flat fabric to terry to avoid cracks in the fabric.
6. An automatic and positive let-off motion for the pile warp to insure uniform loops in the terry section and provide tensioning of the pile beam when flat fabric is being woven.
7. A separate pattern chain (other than those required for the dobby and box motions) to control the various motions of the terry construction which must be timed correctly and accurately if the cloth is to be first quality.

The special reed motion mentioned in Item 4 may be constructed in one of several different ways by the various loom manufacturers, but no attempt will be made here to describe any particular motion. In Figure 7 is shown the basic principle used by several manufacturers to secure the desired reed motion. This motion is similar to the regular loose-reed motion in construction but differs in that the swing back of the reed is accomplished mechanically as desired, rather than by the trapping of the shuttle in the shed.

In the three-pick terry cycle the reed is swung back while the lay is moving to front center (beat-up) on both of the first two picks and is held in position when beating-up after the third pick. This allows the first two picks to be left some distance from the fell of the cloth until after the third pick is inserted, at which time all three picks are beat-up to form the loops of pile.

*See page 130, the September issue of TEXTILE INDUSTRIES.

FIG. 7. A side view of the special loose-reed mechanism ordinarily used for weaving the standard three-pick terry weave. The diagram at the right shows the reed swung back for the purpose of leaving the first two picks away from the fell of the cloth. The view at the left shows the reed locked in place for the beating-up of the three picks to the fell of the cloth.



Figured Terry Designs

The examples of patterns and designs for terry weaves so far discussed have dealt with the weaving of plain terry; that is, terry cloth having loops equally and uniformly divided between the face and back of the cloth.

In Fig. 8 is shown the principle of designing for figured terry. In this case, the loops are not equally spread over the entire surface but are in groups or blocks. Where a

Designing

By T. HARGREAVES
Superintendent, Caldwell Linen Mills (Canada)

EXCLUSIVE

Article 2

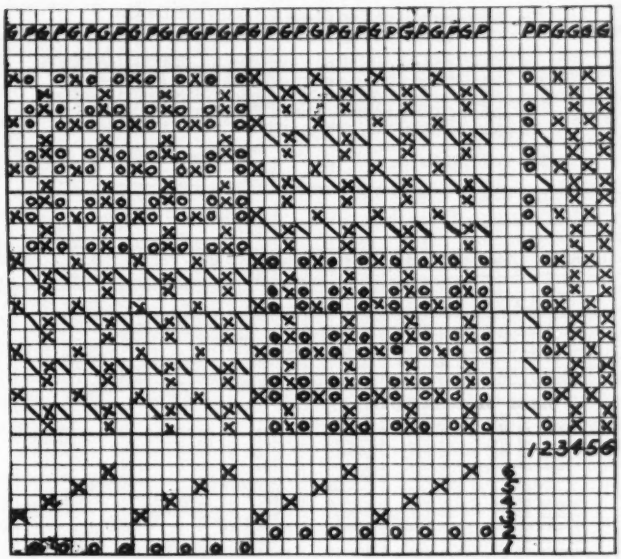


FIG. 8. The weave, drawing-in draft, and chain pegging plan for a figured three-pick terry. Raisers of the ground weave are shown by "X." Raisers of the pile weave are indicated by diagonal line in the blocks where all of the pile is on the back and by "O" in the blocks where all of the pile is on the face.

block of terry is shown on the face of the towel, there are no loops underneath that block on the back of the cloth. Where the face is shown without loops, then under that block on the back of the towel will be found loops. In other words, all the loops in a block are on the same side of the cloth. By changing the manner in which the pile end weaves with the first pick of the three-pick terry weave cycle, the loop may be thrown from face to back or vice-versa.

It should be recalled from Article 1 that the ground ends weave as a 2-1 warp rib weave continually and are not affected by a change in the terry weave. It should also be recalled that if the pile end is over the first pick of the three-pick weave cycle, then the loop is formed on the face of the cloth, and if the pile end is under the first pick, then the loop is formed on the back of the cloth.

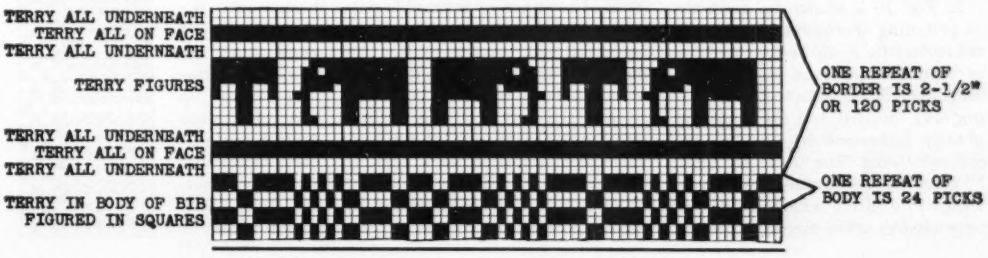
Figure 9 is a further development of the principles outlined in Fig. 8. Here the figured terry is in two arrangements; one part is for the body portion and the other for the border. The body portion is composed of small blocks of terry weave while in the border the terry loops are designed to resemble elephants.

This design, which would be suitable for a child's bib, would require 12 harnesses (eight for pile and four for ground) on a double-cylinder dobby terry loom. If two colors of filling (for example pink for the body portion and blue for the border portion) are used, then a multiple box loom would be needed.

The box chain would be arranged to insert 588 picks as shown on the next page.

In this design, the border is at only one end of the pattern and the warps, both pile and ground, are white yarns. Because no part of the design calls for plain terry cloth, the pile ends may be drawn two per eye. This reduces the num-

FIG. 9. A figured terry design suitable for a child's bib. This small figure repeats on 172 ground ends and 172 pile ends. The border design requires 120 picks and the body design repeats on 24 picks. The weave would require eight harnesses for the pile (drawn two ends per eye) and four harnesses for the ground (one per eye). The body of the design would be on dobby cylinder No. 1 and the border design on cylinder No. 2.


TERRY ALL UNDERNEATH
TERRY ALL ON FACE
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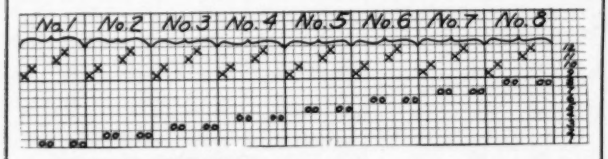
TERRY FIGURES
TERRY ALL UNDERNEATH
TERRY ALL ON FACE
TERRY ALL UNDERNEATH
TERRY IN BODY OF BIB
FIGURED IN SQUARES
ONE REPEAT OF BORDER IS 2-1/2" OR 120 PICKS
ONE REPEAT OF BODY IS 24 PICKS

Arrangement of Box Chain to Weave Bib Design Shown in Fig. 9 on Preceding Page

12 picks of plain tab, dobby cylinder No. 1, Pink filling
396 picks of Terry body, dobby cylinder No. 1, Pink filling
120 picks, Terry border, dobby cylinder No. 2, Blue filling
48 picks of Terry body, dobby cylinder No. 1, Pink filling
12 picks of plain tab, dobby cylinder No. 1, Pink filling

588 Total Picks



ORDER OF DRAWING-IN

2	repeats of	No. 1—	8 pile,	8 ground	1 repeat of	No. 6—	4 pile, 4 ground
1	repeat of	No. 2—	4 pile,	4 ground	1 repeat of	No. 4—	4 pile, 4 ground
1	repeat of	No. 3—	4 pile,	4 ground	1 repeat of	No. 5—	4 pile, 4 ground
1	repeat of	No. 4—	4 pile,	4 ground	1 repeat of	No. 4—	4 pile, 4 ground
1	repeat of	No. 5—	4 pile,	4 ground	1 repeat of	No. 3—	4 pile, 4 ground
1	repeat of	No. 4—	4 pile,	4 ground	1 repeat of	No. 2—	4 pile, 4 ground
1	repeat of	No. 6—	4 pile,	4 ground	2 repeats of	No. 1—	8 pile, 8 ground
2	repeats of	No. 7—	8 pile,	8 ground	1 repeat of	No. 8—	4 pile, 4 ground
4	repeats of	No. 8—	16 pile,	16 ground	2 repeats of	No. 6—	8 pile, 8 ground
2	repeats of	No. 7—	8 pile,	8 ground	2 repeats of	No. 7—	8 pile, 8 ground
3	repeats of	No. 1—	12 pile,	12 ground	2 repeats of	No. 6—	8 pile, 8 ground
2	repeats of	No. 7—	8 pile,	8 ground	1 repeat of	No. 1—	4 pile, 4 ground
4	repeats of	No. 8—	16 pile,	16 ground			
2	repeats of	No. 7—	8 pile,	8 ground	TOTALS		172 172

FIG. 9A (above). Showing the drawing-in-draft arrangement and the complete drawing for 172 pile ends and 172 ground ends required to repeat both the body design and the border elephant design.

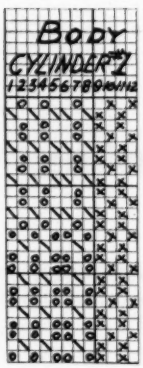


FIG. 9B (above). The chain draft for dobby cylinder No. 1 which controls the weaving of the body of the bib design.

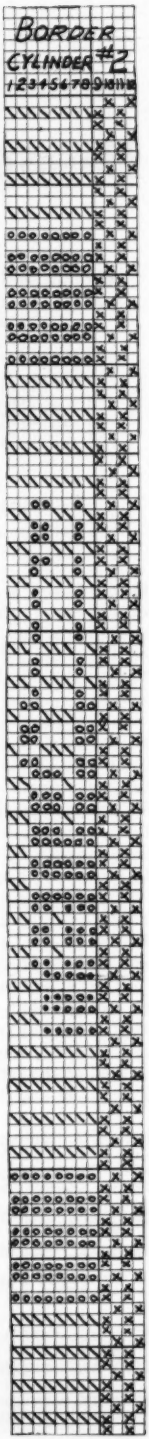


FIG. 9C (right). The chain draft for dobby cylinder No. 2 which controls the weaving of the elephant border design.

ber of heddle eyes needed, prevents crowding of the eyes on the harness frames, and produces a more clearly cut pattern in the terry blocks. The ends are shown reeded two pile ends in one dent and two ground ends in the next dent, etc.

Figure 9A shows the drawing-in-draft arrangement and the complete drawing for 172 pile ends and 172 ground ends required to repeat both the body design and the border elephant design.

Figure 9B shows the chain draft for dobby Cylinder No. 1 which controls the weaving of the body of the bib design.

Figure 9C shows the chain draft for dobby Cylinder No. 2 which controls the weaving of the elephant border design.

In Fig. 10 is shown an example of designing of a towel whose chief characteristic is an overall pattern of white terry loops woven in a diagonal ribbed effect. White filling may be used, but the design is greatly enhanced by the use of colored filling. The three strips of 1" terry in the borders are woven with white filling which stands out very clearly after bleaching, making a very attractive border for the towel.

The diagonal ribs of terry in the borders are shown in the figure to be in opposite direction to the ribs in the body of the towel. This changing of direction in the border is not necessary if colored filling is used in the body and white filling in the border, but offers here an opportunity to demonstrate how the lifting plan or chain draft may be arranged to change the direction of the terry ribbed effect.

Across the towel these diagonal terry ribs also change direction, giving a pointed twill type of effect. This is accomplished by reversing the order of drawing-in the pile threads. Therefore, in this example it is possible to show both types of reversed or reversible patterns; first by the drawing-in of the ends, and second, by the reversing of the chain draft. It should be noted here that only the pile threads are reversed, the ground ends being drawn through the harnesses in a constant and regular manner. It should also be noted that in reversing the direction of the terry ribs by means of the chain draft, only the lifting plan of the pile harnesses is affected; the lifting of the ground harnesses remains the same throughout the full length of the towel.

From the figure it can be seen that the basic weave for this effect is six terry loops woven on face of the cloth and then six loops on the back of the cloth. Two pile ends work together for this "six loops up and six loops down weave." Each succeeding two pile ends are two terry weave cycles or

54 PICKS - 1-1/8 INCH PLAIN TABS - COLORED FILLING - FOR HEMMING
42 PICKS - 1 INCH DIAGONAL RIBBED TERRY - WHITE FILLING
18 PICKS - 3/8 INCH PLAIN TABS - COLORED FILLING
42 PICKS - 1 INCH DIAGONAL RIBBED TERRY - WHITE FILLING
18 PICKS - 3/8 INCH PLAIN TABS - COLORED FILLING
42 PICKS - 1 INCH DIAGONAL RIBBED TERRY - WHITE FILLING
18 PICKS - 3/8 INCH PLAIN TABS - COLORED FILLING
BODY OF TOWEL CONTAINING 1452 PICKS OF COLORED FILLING - 34-1/2 INCHES (APPROXIMATELY) - EACH VERTICAL DIAGONAL SECTION CONTAINS 102 PILE ENDS AND 102 GROUND ENDS
18 PICKS - 3/8 INCH PLAIN TABS - COLORED FILLING
42 PICKS - 1 INCH DIAGONAL RIBBED TERRY - WHITE FILLING
18 PICKS - 3/8 INCH PLAIN TABS - COLORED FILLING
42 PICKS - 1 INCH DIAGONAL RIBBED TERRY - WHITE FILLING
18 PICKS - 3/8 INCH PLAIN TABS - COLORED FILLING
42 PICKS - 1 INCH DIAGONAL RIBBED TERRY - WHITE FILLING
54 PICKS - 1-1/8 INCH PLAIN TABS - COLORED FILLING - FOR HEMMING

FIG. 10 (above). Diagram showing a diagonal ribbed terry design. The shaded portion has all the terry on the face and none on the back; the unshaded portion has no terry on the face and all the terry on the back. This towel (shown with the body broken for dimensional purposes) would contain a total of 1926 picks (42 per inch) and would be approximately 45 inches long and 24½ inches wide from the loom. Both the pile and ground warps are all white. The filling is white and colored.

six picks later in the lifting plan, to produce the diagonal design of the terry ribs. The weave will thus repeat on 12 pile ends and 12 ground ends, but by drawing two pile ends in each eye, the design will repeat on six different lifts so, therefore, only six harnesses will be needed for the pile ends.

The ground weave can be woven on only two harnesses, but when using a dobby loom it is much better to spread these ends over four harnesses.

Inasmuch as the selvage can be woven on the four ground harnesses, a total of 10 harnesses will be needed to weave this design, and 36 picks will repeat the weave pattern. Because the direction of the ribs in the border has been reversed, a double-cylinder dobby must be used; otherwise, a single cylinder could be used.

The data needed to build the various chains necessary to weave this pattern are shown in the accompanying box.

If each towel is to be 45 inches long, then 1926 total picks divided by 45 would equal 42.8 picks per inch. But because of the retarding of the picks in the plain tab sections to prevent thin places from occurring in the towel when changing from plain tabs to terry, there should be about 42 picks per inch in the body of the towel and a 42 pick gear should be used.

Figure 10A shows the drawing-

THE DATA needed to build the various chains necessary to weave the pattern shown in Fig. 10 above are presented in the box at the right.

DATA FOR BUILDING CHAINS

54 picks—plain tab—colored filling—dobby cylinder No. 1—retard last four picks
42 picks—terry—white filling—dobby cylinder No. 2.
18 picks—plain tab—colored filling—dobby cylinder No. 1—retard last four picks.
42 picks—terry—white filling—dobby cylinder No. 2.
18 picks—plain tab—colored filling—dobby cylinder No. 1—retard last 4 picks.
42 picks—terry—white filling—dobby cylinder No. 2.
18 picks—plain tab—colored filling—dobby cylinder No. 1—retard last 4 picks.
1452 picks—terry—colored filling—dobby cylinder No. 1.
18 picks—plain tab—colored filling—dobby cylinder No. 1—retard last 4 picks.
42 picks—terry—white filling—dobby cylinder No. 2.
18 picks—plain tab—colored filling—dobby cylinder No. 1—retard last 4 picks.
42 picks—terry—white filling—dobby cylinder No. 2
18 picks—plain tab—colored filling—dobby cylinder No. 1—retard last 4 picks.
42 picks—terry—white filling—dobby cylinder No. 2.
54 picks—plain tab—colored filling—dobby cylinder No. 1.
6 picks plain tab—white filling—dobby cylinder No. 1—cutting line.

1926 Total Picks in Each Towel

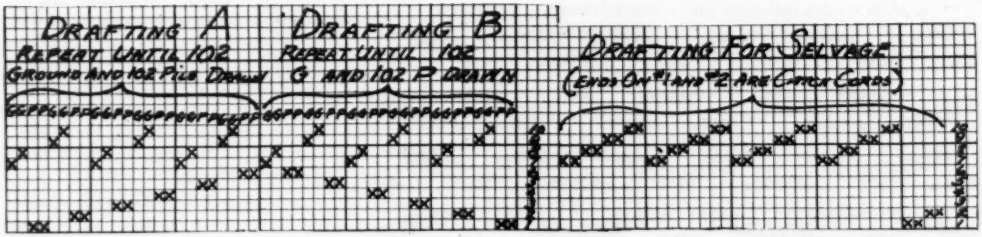
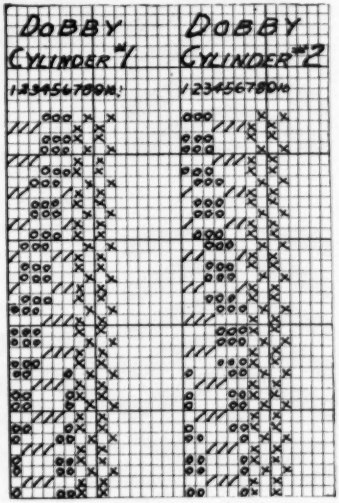


FIG. 10A (above). The drawing-in draft for the ground and pile ends and also the selvage draw.

FIG. 10B (right). The chain drafts for the two cylinders of the dobby motion.



in drafts for the ground and pile ends and also the selvage draw.

Figure 10B shows the chain drafts for the two cylinders of the dobby motion.

The method of building the pattern chain for the control of the terry motions will be discussed in a later article of this series.

(In the third article of this series, the author will discuss the designing of fancy borders for terry towels.)

Productive Maintenance Program for Industrial Mobilization

A new plan to help industry get the most productivity from its existing facilities has been announced by the General Electric Company.

Called "Productive Maintenance," the plan is designed primarily to assist maintenance engineers in setting-up a program to minimize lost production time and forced idleness due to equipment failures. In addition, it will provide better spare parts control, smoother production flow, and enable industry to gain optimum output from existing equipment, according to G-E engineers who worked on its development.

Productive Maintenance, as outlined in the plan, recommends (1) an adequate staff of trained maintenance men, armed with (2) the tools needed to perform properly the functions of (3) regular, routine checks of operating equipment, and (4) planned outage of this equipment at regular, scheduled intervals. Rebuilding and modernizing machines during time of planned outage is done readily with (5) an adequate stock of mechanical and electrical renewal parts.

To help the maintenance engineer materially, the company offers a Productive Maintenance Kit, a file-size package of maintenance aids to guide him in setting-up a working program.

To supplement the kit, a new slidefilm, "Productive Maintenance," is available for showing through the local G-E offices. The film explains how Productive Maintenance can benefit every industrial plant.

To further aid maintenance engineers establish the program G-E service engineers, upon request, will assist in making a complete equipment survey to determine existing conditions, future outages, and to guide in setting-up a working spare parts control.

Electrical Hazards in Textile Mills

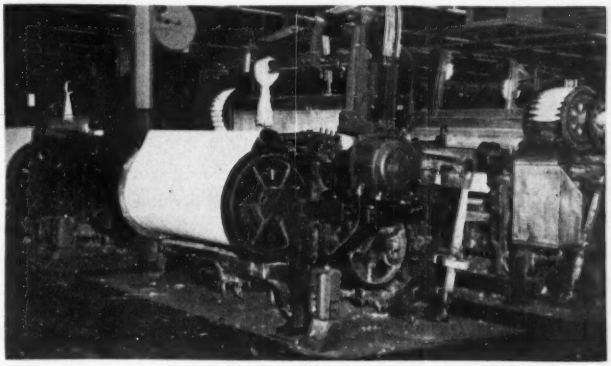
No. 3 of a series

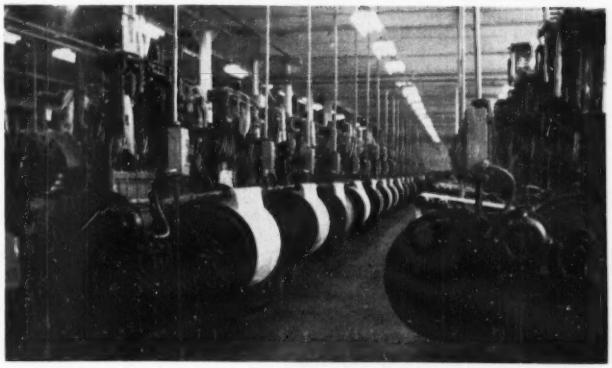
EXCLUSIVE

WEAVE ROOMS

Conventional →

Totally enclosed, non-ventilated motor connected to ordinary purpose switch enclosure. Connectors are not watertight, and switch is in heavy lint area near floor.



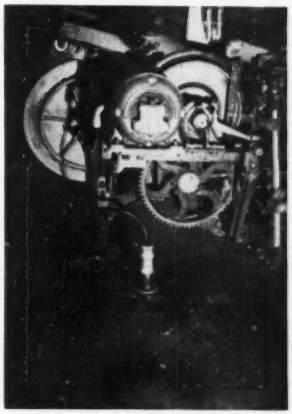


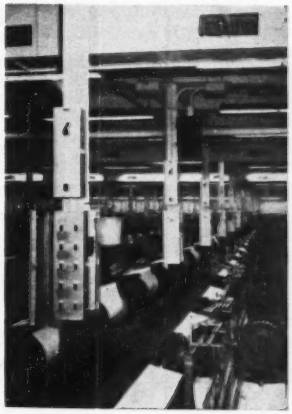
← Better

Switch boxes are not dust tight, but they are located well above heavy lint area. Note special starter mounting bracket connecting conduit to pipe pedestal. Both motor and switches are located where they may be easily kept clean and free of lint.

Excellent →

Individual loom switches have been eliminated, and switches are grouped in semi-dust tight enclosure on column. Note proper use of totally enclosed motor, watertight connectors, flexible cord, and special plug with flange mounted receptacle.



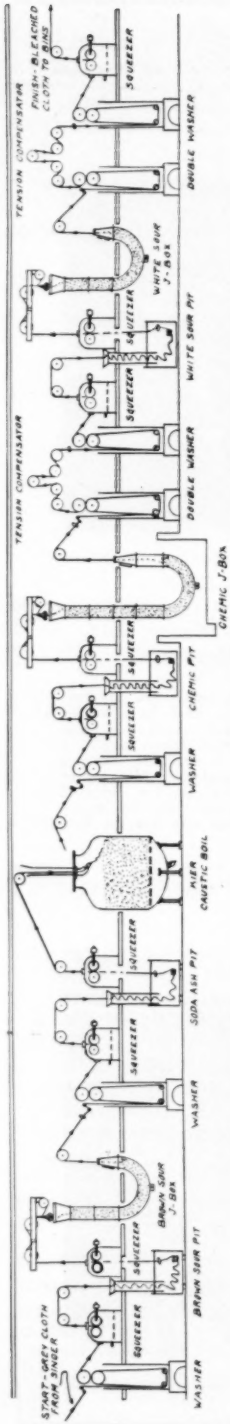


Photos courtesy, Factory Insurance Association

The Preparation and

*Article 3**

Continuous Peroxide Bleaching



SEMI-CONTINUOUS caustic kier boil and chlorine bleach method is shown in this side elevation drawing. By substituting a caustic saturator and caustic steaming J-box for the kier, this method could be converted to a fully continuous type.

IT IS QUITE possible that continuous peroxide bleaching as we know it today is the natural outgrowth of the original concept of peroxide bleaching, the peroxide kier. Kier bleaching was a batch proposition which took many hours of processing time and was rather limited in scope. An improvement was indicated.

Development. The suppliers of hydrogen peroxide, particularly the Buffalo Electro-Chemical Co. and DuPont, were looking for a larger market for their product, and both companies were actively engaged in research and development on the problem. In the latter part of 1931, the Becco representatives, in cooperation with the plant management, set up a pilot plant J-box steamer in the laboratory of the Dutchess Bleachery, Inc., at Wappingers Falls, N. Y., and conducted a series of experiments.

As a member of the bleachery laboratory staff, the writer was associated in this experimental work in the minor capacity of a helper. After obtaining patents on the process, the Becco men dismantled the pilot plant and proceeded to develop their process to the actual plant installation stage. This transition from pilot plant to actual plant installation took several years, and the early installations, naturally, had their share of "bugs."

Becco and DuPont Systems. While this was going on, the DuPont Company was carrying on a similar development program with their version of the continuous peroxide bleaching unit. As in the Becco system, the focal point of their system was the J-box, but the DuPont J-box differed from the Becco J-box in the manner in which the steam was introduced to the cloth.

In the Becco box the steam chests were an integral part of the J-box itself, and the steam was applied to the goods right in the J-box. In the DuPont box the goods were run through a steaming U-tube and then into the J-box for storage heat lay. There was no steaming of the cloth after it entered the J-box, but the J-box was well insulated to retain all the heat possible from the U-tube steaming.

Both the Becco and the DuPont systems were designed for running the cloth in the rope form, and each had a modified version for running the cloth open-width.

Mathieson System. The Mathieson steamer is a more recent version. It is a chamber-like affair containing a stainless steel conveyor belt upon which the cloth is plaited as it slowly advances the length of the chamber. The chamber contains live steam which furnishes the heat required by the chemicals impregnated in the cloth to do the bleaching.

The cloth is run through the Mathieson in the open-width.

As previously stated, all three systems are basically alike. They all depend on a saturation of the cloth with a caustic soda solution, followed by a steaming, then a wash and second saturation with a peroxide solution, with a subsequent steaming and wash. The writer has had considerable ex-

*Articles 1 and 2 appeared in the July and August issues, respectively.

Bleaching of Cotton Piece Goods

perience with the Becco system, having had charge of the installation and operation of one of the largest capacity systems ever built, and for that reason will confine his description of continuous peroxide bleaching mainly to this system.

This should in no way be taken as a reflection on the other systems because they are all good if properly installed and properly operated. It is simply that the writer is more familiar with the Becco unit. Outside of the difference in steaming the cloth, the systems are practically identical anyway.

Bleach Range Described. A typical Becco continuous peroxide bleaching range consists of the following machinery components in the sequence given: First there is a tight strand washer (this is a rope form system), then a squeezer, overhead reels, caustic saturator, J-box piler, caustic J-box, overhead reel, two tight strand washers with automatic tension compensator between, squeezer, overhead reels, peroxide saturator, J-box piler, peroxide J-box, overhead reel, two tight strand washers with automatic tension compensator between, squeezer, overhead reels, and automatic bin piler.

Range Drives. In order to provide the necessary variation in operational speeds (75 yards per minute to 250 yards per minute) the machinery components of the range are individually driven with

By A. DURFEE DAMON
General Superintendent
Lockwood-Dutchess, Inc.
Wappingers Falls, N. Y.

EXCLUSIVE

direct current motors. For proper synchronization to operate as a unit, each motor is provided with a rheostat control and in addition there are three master control rheostats, each of which control a group of motors or, as it is called, a "stage" of the unit.

Since most plants do not have direct current power available, motor-generator sets are used to convert the a-c power to d-c. All motors are also provided with over-load switches to protect them from burnouts in case the tension on the cloth should become excessive. Of course, these switches also protect the cloth from damage.

The roll pressures on the squeezers are pneumatically applied and controlled, and a separate air compressor is usually provided to supply the necessary air.

Passage of Cloth. When bleaching by the continuous peroxide bleaching method, the desized cloth enters the first tight strand washer of the unit and proceeds through the washer, through a squeezer, over reels, and down into the caustic saturator.

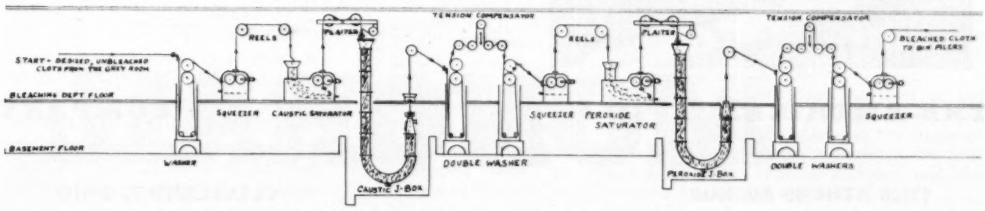
Here the cloth passes through a 3½% caustic soda solution, out through a squeezer, up over the plaiter, and down into the caustic J-box. It is here that the first steaming operation takes place; the passage through this J-box takes about 1½ hours.

Upon emerging from the caustic J-box, the goods pass through a tight strand rope washer, over a tension compensating assembly, through a second tight strand rope washer, then through a squeezer, over reels, and into the peroxide saturator. Here the cloth is saturated with a solution containing 1½% hydrogen peroxide (35%-130 volume peroxide), 1½% sodium silicate (42° Be.) and .1 to .5% caustic soda.

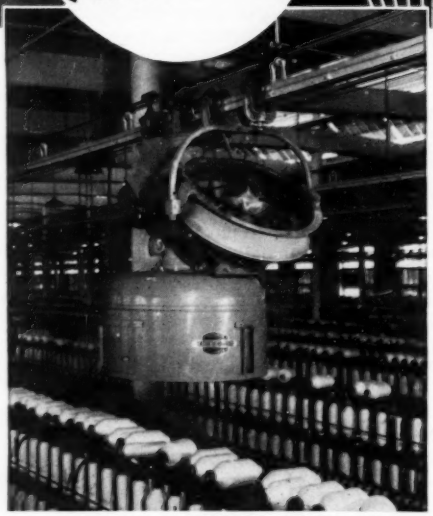
It passes out of the saturator, through a squeezer, over the plaiter, and down into the peroxide J-box where the second steaming operation takes place. This steaming time is one hour.

Upon emerging from the peroxide J-box the goods are fully bleached but still require washing to remove spent peroxide liquor. Therefore, the cloth is run through a tight strand washer, over a tension compensating assembly, through a second tight strand washer, through a squeezer, up over reels, and through overhead pot-eyes to the automatic bin pilers which pile the cloth into the bins. These bin pilers operate as part

CONTINUOUS peroxide bleaching unit of the Becco type.



AMERICAN MONORAIL *Automatic Cleaners*



You can eliminate fly, keep ceilings clean, reduce machine stoppage, lower cleaning costs and get better running work with American MonoRail Automatic Overhead Cleaners. Consultation with an American MonoRail engineer will reveal why Controlled Cyclonic Cleaning is used in so many textile plants. Write for 24-page booklet explaining cost-saving advantages.

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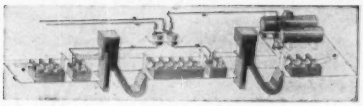

of the bleaching range.

When the cloth reaches the white bins the bleaching process is complete, and the total elapsed time necessary for the passage of the cloth through the entire bleaching range is less than three hours.

Chemical Supply. In order that the bleach be most uniform, the chemicals are fed to the saturators automatically by means of proportioning pumps, and the chemical concentration of the liquor in each saturator is checked at 20-minute intervals by titration. Permanent records are kept of these titration results as well as all other pertinent data.

The flow of steam into the J-boxes is also automatically controlled by the use of thermocouples which electronically actuate the steam feed valves and maintain the interior of the J-boxes at a constant temperature of 212° F.

Operating Schedule. For the best results continuous peroxide bleaching ranges should be operated on a 24-hour day, 120-hour week schedule, but every plant does not have the capacity of work necessary to operate the range constantly.

Many operate their ranges on a 16-hour double shift and must start up and empty out each day. Of course this gives them some production loss, but it also involves certain techniques which are necessary if the bleacher is to avoid insufficiently bleached goods on the first end in and the tail-end yardage out. It perhaps might be well to go into details on the subject of the starting up and emptying of the continuous bleaching systems.

Starting the System

Before the cloth is run into the J-box, the steam is turned on in the sump heater and run for awhile in the empty J-box. This heater is then shut off and the bottom heater of the straight section is turned on and run awhile. Then the middle heater is turned on and run awhile, and if there is another or top heater the steaming process is repeated on that. This steaming routine heats up the J-box and clears the steam heating chests of condensate.

When the steaming is complete, the leading end of the cloth is run in and secured to the ring attached to the rubber pot-eye plug located at the delivery end of the J-box. This plug is then fastened tightly in place and the sump heater is turned on full force to steam the incoming cloth. When the cloth fills the J-box to a point of about two feet above the bottom heater, this bottom heater is turned on full and the sump heater is shut off.

Piling is continued until the cloth reaches a height two feet above the middle steam chest, and once again there is a change-over of heaters. If the J-box has three heaters, the heater change-over is repeated again when the height of the cloth is sufficient. Once on the top heater, there is no further changing of heaters until the J-box is emptied at the end of the day's run.

When the steam is on the top heater, the sump drain is opened, the steam bleed-off valve at the delivery end is opened, and finally the plug is removed from the delivery end pot-eye. The cloth is then started out of the J-box and it can be considered that the J-box is in normal operation. The same

Pointers on Operating Open Width Bleach Range

(DuPont System Using Williams Units)

1. The operator should maintain proper tension on the cloth to avoid slack cloth with its wrap-around tendencies, or tight cloth with its resultant damages to the cloth and equipment.

2. The operator should correct any turned selvages or wrinkles and keep the cloth smooth.

3. Operator must be watchful for any mechanical defects or failures, particularly frozen bearings or idler rolls stopped due to cloth pile-ups or wrap-arounds. A distinctive mark on the journals of the idler rolls, visible for some distance, will be found helpful in checking whether the roll is turning properly.

4. Each component machine should be provided with an overload switch to protect the equipment and cloth from damage.

5. Titration of the liquor in the saturators must be made on a definite time schedule and the titers recorded.

6. Check must be kept on steam feed pressures and the temperatures of the J-boxes.

7. Operating speeds must be consistent with the type and weight of the cloth being bleached. These speeds should be determined beforehand and carried out on schedule.

7. Williams Units, because of their narrow cloth passageway design, require certain extra precautions in their operation, some of which follow: Lint collections in these units will wrinkle the cloth; metal objects, such as nuts, bolts, selvage straightening clips, and tramp iron will tear the cloth and damage the equipment if they get in a Williams Unit; in like manner, any foreign matter, trash, pencils, washers, etc., can cause serious trouble in one of these Units.

8. Clean the J-box of lint weekly to eliminate sources of surface abrasion rub mark troubles.

9. A silicate build-up on reels, bow bars, and the side of the J-box will cause fraying of the cloth. Keep these surfaces clean.

10. Watch out for nicks or burrs on the rolls. They will cause fraying of the cloth.

11. Maintain the level of the liquor in the saturator by manipulating and balancing the squeezer set relationship between the preceding washer squeezer and the saturator squeezer.

Killing STATIC is not enough

If you can't say **"YES"** to these questions, your present anti-static agent is doing only half its job.

★ Does it spread evenly and thoroughly, covering all capillary surfaces of fibers or filaments?

★ Does it establish a uniform coefficient of friction, imparting equallized fiber-to-fiber cohesion?

★ Does it insure absence of gumminess involving aprons and card clothing?

★ Does it give you freedom from yellowing? Rancidity? Corrosive effects on mechanical parts?

★ Does it scour out readily and completely?

★ Is it balanced to do your job?

You can expect these "extras" and others, when you use Nopco "balanced" anti-static chemicals.

Reg. U. S. Pat. Off.

Nopco's "balanced" anti-static chemicals will be featured at the forthcoming Exhibit of the American Association of Textile Chemists and Colorists at the Hotel Statler in New York, October 17-19. You are cordially invited to visit Nopco booths 4 and 5 in the Georgian Room during your stay.

NOPCO * "Balanced" Anti-Static Chemicals

NOPCO 1656-R— *A moisture-free worsted oil applicable to all worsted production systems.*

NOPCO 1056-A— *A vital processing aid for Nylon warp and filling yarns.*

NOPCO FUA— *Widely used wool lubricant. Performs like a soap in wet finishing.*

NOPCO 1125-P— *For Nylon and Orlon yarns for lace manufacture. Prevents graphite contamination.*

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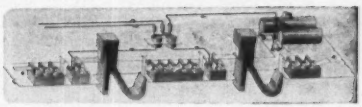


procedure is followed for the other J-box.

Emptying the System. When the last end goes into the J-box at the end of the day's run, the level of the cloth in the J-box gradually drops until it approaches the top steam chest. When this happens, the steam is turned on in the next lower chest and gradually shut off in the top chest. This retracing procedure is followed until the cloth fills the curved section only and the sump heater is furnishing the steaming. As the last end leaves the J-box, this heater is turned off also.

The Wet J-Box

A fairly recent innovation in continuous peroxide bleaching is the use of the so-called wet J-box. This method employs the introduction of warm water to the bottom part of the curved section of the J-box and by means of a standpipe overflow maintains the water at a definite height in the bottom of the J-box.

The advantages provided by this modification are better sliding of the goods around the curve, some preliminary rinsing of the cloth, and a cleaner J-box interior. If the wet J-box is used, some means must be provided to remove the excess water from the cloth as it emerges from the delivery end of the J-box. A comparatively light set of squeeze rollers with coil spring set will usually do this job satisfactorily. Such an assembly can be fastened in place directly over the delivery end pot-eye.

Modifications

As outlined in this article, the continuous peroxide bleaching method is the most modern method of bleaching available at this time, and its advantages over the older methods are too great to be ignored by even the most tradition-bound bleacher. This new system offers savings in steam, chemicals, labor, and time; but most important of all, it produces superior whites without being detrimental to the cloth in any way.

Whenever a mill installs one of these systems and gets it operating properly, the whole processing tempo of that mill is stepped up to keep up with the bleaching speed. The bleaching time is reduced to terms of a few hours when formerly it was in terms of days. The bleaching results are predictable beforehand and can be duplicated at will.

Although the original concept of these bleaching systems was for big yardage bleaching operations, there are today several smaller modified "bantam" versions of the systems being built for the plants that don't need the large capacity type. There is a great deal of development work going on to adapt this process to all types of cloth, from knit goods to rayon. END.

Pointers on Operating Rope System Bleach Range

(Becco System)

1. Keep all equipment properly lubricated. This includes the special lubricant for the automatically controlled steam feed valves to prevent these valves from sticking and giving faulty steam feed.

2. Establish a constant and regular maintenance program for cleaning J-boxes, reels, saturators, squeezers, washers, etc., and do not let the press of work cause you to deviate from this program. Such a program pays off in the quality of work produced and the absence of damages and breakdown work stoppages.

3. Guard against corrosion of structural steel side frames, etc., by keeping such areas well painted with special corrosion resistant paint.

4. Provide good ventilation facilities for carrying off waste steam and the other vapors from the process. Condensation of steam in the area can be costly both to equipment and the cloth passing through it.

5. On squeezers using the pneumatic set principle, provide oil mist oilers on the air lines leading to the piston cylinders to insure proper lubrication on the inside walls of these cylinders and, thereby, prevent sticking pistons and unbalanced squeezer set.

6. Be sure that the drive on the worm of the traveling pot-eye of the J-box piler is equipped with a soft metal shear pin. Otherwise, any jamming of the "dog" in this worm can cause a major damage to the piler. With the soft metal shear pin, a jam will only cut off the pin, which can be easily replaced.

7. Provide sliding cover panels for closing the top openings of the J-boxes during shut downs and also during J-box warm-ups prior to starting.

8. Provide a safety blow-off valve in the steam line between the pressure regulator valve and the J-box. In case of an operational failure of the pressure regulator valve, high pressure steam will be diverted harmlessly out of the line through the safety valve and will not enter the J-box. High pressure steam, if allowed to enter the J-box, would blow the cloth right out of the top of the J-box.

9. Any man entering a J-box for an inspection of the interior should remember that it is a stainless steel container, well grounded, and as such constitutes an excellent conductor of electricity. Because of this fact, any extension lights or other electrical equipment taken into the J-box must be carefully and completely guarded against any possibility of short circuits.

10. Another safety precaution. the use of any makeshift rope slings, rope ladders, etc., for lowering a man into the J-box should be strictly prohibited. Instead, use a specially constructed staging, supported at both ends, that is of a size and shape to fill the entire apperture. Whenever anyone is inside the J-box always be sure to provide an attendant or attendants stationed outside the J-box to protect him from such accidents as inadvertently turned on steam valves, etc.

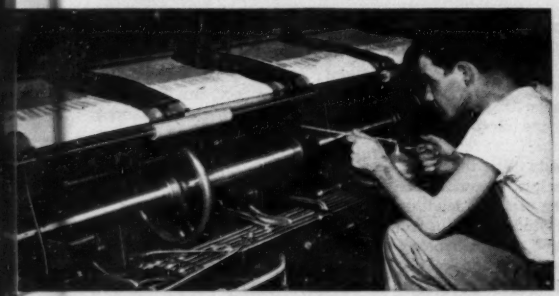
COMPLETE SCOURABILITY and the superior adhesiveness of Sunotex Machine Oil ended a jinx for this felt maker. Sunotex held spotting to the absolute minimum and replaced an "adhesive" oil which had to be applied three times as often. Sunotex Machine Oil is now used—with never a trace of harmful staining—on every loom in the mill, including this 500-incher.

LUBRICATION JINX IN 3 MILLS ENDED BY SUNOTEX MACHINE OIL

One mill had been plagued with excessive oil costs, another with numerous spots that would not scour out, a third with rusting. By switching to Sunotex Machine Oil, a new general-purpose textile oil for bearings, cams, slides and gears, each one of these mills ended its troubles.

Sunotex Machine Oil is an ideal lubricant for almost all friction points of textile equipment. It is exceptionally adhesive, scours out completely from all fabrics, assures absolute rust protection, withstands extreme pressures, simplifies inventories, makes possible longer undyed fabric storage.

To find out how many of your machines this oil can protect, write to Department TI-10 for lubrication data sheets and samples.



NO RUST forms to interfere with the delicately adjusted mechanisms of this hosiery machine now that Sunotex lubricates it. The mill's production of perfect nylons, greatly reduced by the oils formerly used, has returned to rated capacity.

50% LESS OIL is needed to lubricate this knitting machine because Sunotex adheres so much better. Unlike the former product, this Sun oil does not gum up the system. Costly week-end clean-ups have been eliminated.

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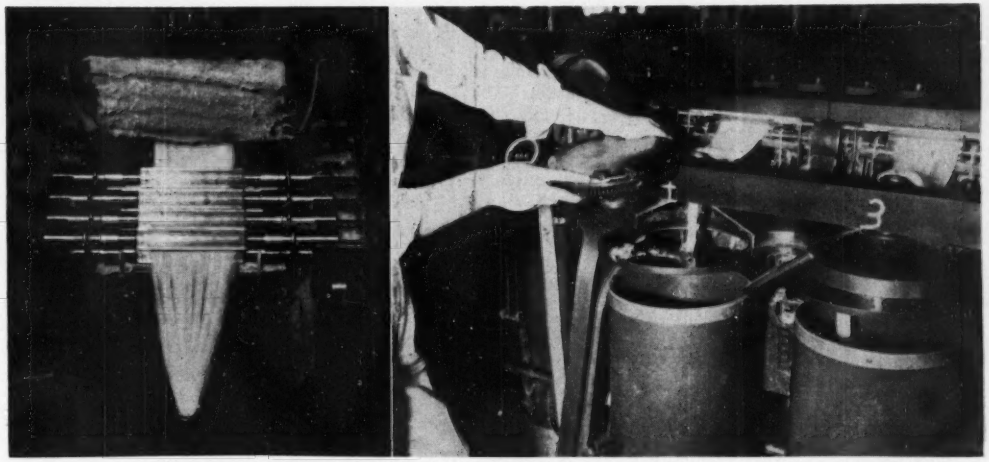

SCARRED or worn flutes on top rolls, worn collars on metallic rolls, and incorrect trumpet size are contributing factors in making bad work. Right, coiler units, including tubes and gears, often become congested with oily or dirty lint accumulations due to lack of attention.

Decrease Variation at Drawing

Some common causes of bad work at drawing. Remedies often overlooked are suggested.

EXCLUSIVE

By R. H. PHARR

ONE FUNCTION of the drawing process is to decrease variation in the sliver by doubling a number of ends of sliver and drafting them into one sliver. The idea is that doubling slivers will nullify irregularities and produce a more uniform finished sliver. In practice, however, all heavy places or light places may coincide and produce more variation than was present in the single strands of sliver, but on an average the uniformity is improved; especially is the yard-to-yard variation decreased.

Another function of the drawing operation is to parallelize the fibers for future drafting on the fly frames. If drawing frames are not kept in good condition, an excessive amount of variation can be imparted to the sliver at this point and will cause a decided increase in bad work in future processing. It should be worthwhile to review some of the factors that affect variation on drawing frames and what can be done to overcome them.

Tension. Any action or condition that tends to exert an excessive amount of tension or drag on the sliver as it goes through the drawing process will stretch the stock and increase variation. All surfaces that come in contact with the drawing should be smooth and free from rust, oil, or any other accumulation of foreign matter. Knock-off spoons should be kept polished, clean, and correctly adjusted at all times. A rusty spoon may cause the sliver to be stretched before it goes into the back rolls and will increase variation. Also a spoon that is not properly set (such as set too high or tilted at an angle) causes drag on the sliver and tends to stretch it.

Good hand—gives fabrics a good start

Cyanamid Textile Chemicals give fabrics the good hand that contributes to their acceptance by wholesalers and consumers alike. Other properties . . . such as good dye affinity, penetration, suppleness . . . help too—and you can select from Cyanamid's broad line of chemicals those that will best impart the desired qualities to your fabrics.

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Sliver cans with rough edges or tops cause the sliver to be stretched and increase variation. Trumpets should be of the correct size and type for the stock being run and should be kept clean and polished so as to offer as little resistance as possible to the passage of the sliver. A trumpet with too large an opening will not condense the stock properly and will leave the sliver soft and fluffy with little strength. Weak and fluffy sliver is likely to be stretched at slubbers.

Tube or coiler gears should be kept clean and highly polished at all times to prevent drag on the

index in 12

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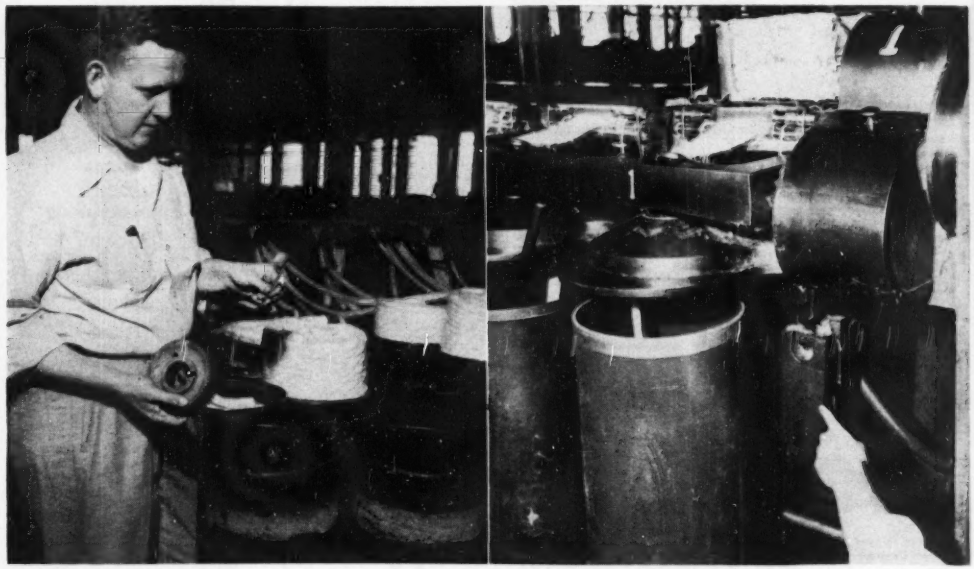
Stretch. If proper tension between the calender rolls and the drafting rolls is not maintained, excessive variation may be expected. If the ends are too tight on the frame the drawing is stretched excessively. If the ends run too loose there is always the danger of the web sagging and the sagging sliver being plucked up by the calender rolls, making the sliver alternately light and heavy.

Section men and supervisors should always be on the alert for any changes in humidity or temperature that may cause ends to run too tight or too slack.

A good way to check the tension on the ends is to take a ruler or bobbin and push down on the web while the frame is running. If the web returns to normal without the end coming down, the tension is correct. Also the selvage on the web should be smooth and free from gaps or fuzz. If the tension is too great on the web it is likely to break at the selvage or sides and cause variation in the drawing.

Sometimes when the tension is correct the selvage is ragged; therefore it is a good idea to set the back guides closer and decrease the width of the web. By giving more body to the web it is less likely to break. The outside edges roll over and form a stronger selvage when the back guides are set close. If clearers are not picked often enough the waste will accumulate and cause the selvage to break and form gaps, thereby producing variation in the sliver.



BAD GEARS, rough or bent knock-off spoons, and rough sliver cans often cause considerable bad work and ends down in drawing. Right, correct weights on top rolls are essential if quality standards are to be maintained without frequent interruptions.

Rolls. Top rollers, either metallic or synthetic, should be kept in good condition. Flutes that are worn or scarred will cause the rollers to pluck the stock and fibers cling to them; this condition produces light drawing. Worn collars on metallic rolls cause flutes of rollers to mesh too deeply, and the fibers are cut or chewed up, contributing to thick and thin places in the drawing. Synthetic top rolls that are not properly buffed usually produce lap-ups, and rollers that are not buffed true allow lumps to go into the drawing. It is essential to keep the correct weights placed on the top

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Tube or coiler gears should be kept clean and highly polished at all times to prevent drag on the sliver as it passes through into the can. A rusty tube gear can cause the sliver to be fuzzy and weak although the sliver is condensed properly by the trumpet. Can tables and coiler mechanisms should be in proper adjustment and in line and level so that the sliver is coiled correctly and is not packed too tightly around the edge of the can. If the sliver is packed too tightly, the drawing will be stretched as it is pulled from the can at the fly frames.

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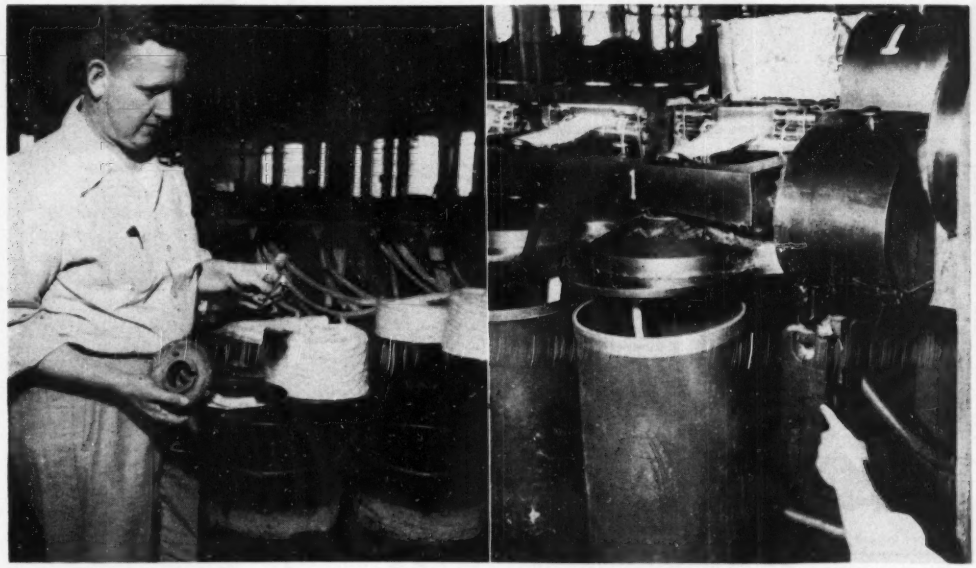

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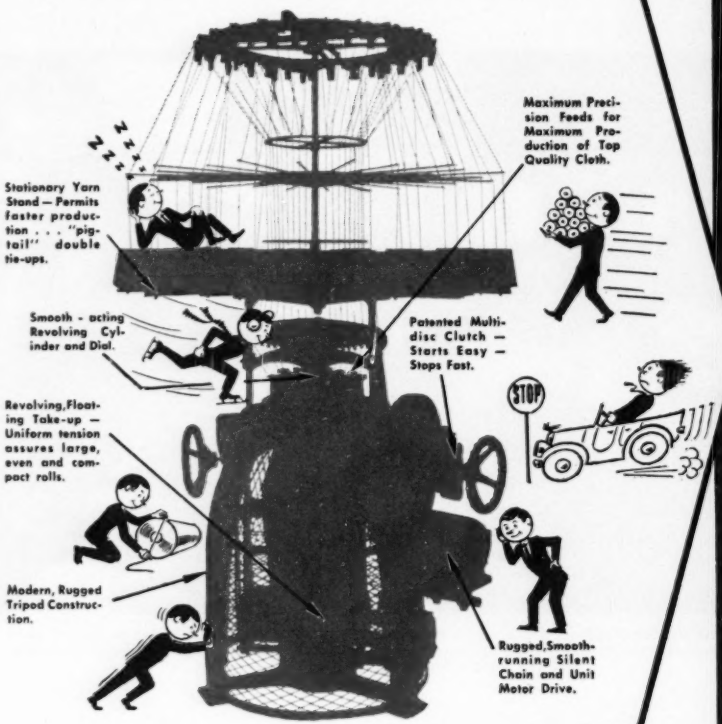
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rollers. If there is not enough weight applied on the rollers (especially the middle rollers) the faster revolving front rollers may pluck the sliver from the middle rollers, producing lumps and unevenness.

Gears. Worn gears, gears with teeth missing, and gears that are not properly set will contribute to uneven drafting, and what is commonly known as cut drawing is the result. If a tooth is missing from a gear, every time this spot on the gear comes in contact with the other gear the rollers are stopped momentarily, thereby stretching the sliver and making a thin place. The slippage may be sufficient to break the ends.

Minor slippage which is not bad enough to cause the ends to come down may not be noticed or found until after the drawing is running on the fly frames. Worn or loose studs can cause the same trouble as worn gears and are much harder to locate. Backlash in the gear train can produce minor variation that will not show up until the drawing has been processed into roving. This problem has been alleviated since the adoption of spiral gears for drawing. All gearing on drawing frames should be checked periodically by the section man for signs of excessive wear or slippage.

Humidity and temperature should be controlled as closely as possible. Variations in temperature and humidity affect quality and production in drawing. 60 to 65% relative humidity is satisfactory for running drawing and will cut down static without causing rollers to become sticky.

Guards over Bleach-Finish Machine Drives Recommended

Much has been accomplished in preventing accidents as well as promoting more healthful working conditions in finishing departments by doing away with excessively wet work areas and chemically contaminated atmosphere.

However, with all of these outstanding improvements, the machinery manufacturer must admit that the drives of the machines and equipment remain unguarded. V-belts, pulleys, shaft ends and other moving parts of the drives are exposed.

Aren't guards over the drives considered just as important to good design and safe operation as these other important improvements?

Every chain drive, every V-belt drive, and every open set of meshing gears should have its sheet metal guard designed and applied by the machinery manufacturer. Guards installed by the manufacturers will receive the necessary attention to material specifications, construction and installation details to insure effective, lasting quality.

Then why has the machinery manufacturer apparently shirked this responsibility?

Let us consider the reasons in their order of importance.

1. *Purchase of the equipment may be divided between manufacturers.*

In large systems, such as continuous bleaching ranges, purchase of the equipment is oftentimes divided between two or more manufacturers, and guards are lost in the shuffle until after the machines are installed. The guards are then either added after installation of the equipment or omitted entirely.

2. *Purchasing agent may be a price buyer and not mindful of the safety details.*

This being the case, the machinery manufacturer who includes guards in his proposed price is at a disadvantage in competing against the manufacturers who are not interested in providing built-in guards.

3. *Existing or new electrical equipment is oftentimes provided by the mill to its own specifications.*

The machinery manufacturers, unless provided with all pertinent details of the electrical equipment and installation arrangements, are unable to even attempt to consider furnishing proper guards.

What must be done to coordinate the efforts of the machinery manufacturers and the textile mills to be sure that drives be properly guarded?

1. Standard specifications for the guards should be furnished each machinery manufacturer to be included in the price estimate of the machine and equipment being quoted. All quotations will then be presented on the same basis and complete in this respect.

2. Familiarize the person or persons, responsible for the purchase of the equipment, with the importance of the guards. From our experience, it is our sincere belief that further promotional work is necessary on the part of the safety engineers to impress safety in the minds of those who specify and purchase equipment.

3. In cases where several manufacturers supply the equipment a layout of the floor plan with drive connections, shaft centers and specifications will enable the manufacturers to be of further help in the final installation of the guards by including necessary clip angles and brackets during the manufacture of the individual machines.

Also there is a definite need for all the states to formulate and enforce uniform codes which would prohibit the haphazard production of machines without guards. If this is done, every manufacturer can be assured of fair consideration in meeting uniform specifications.

Extract of remarks by W. W. Arnold, sales manager, Wiesner-Rapp Co., Buffalo, N. Y., before the annual convention of the National Safety Council.

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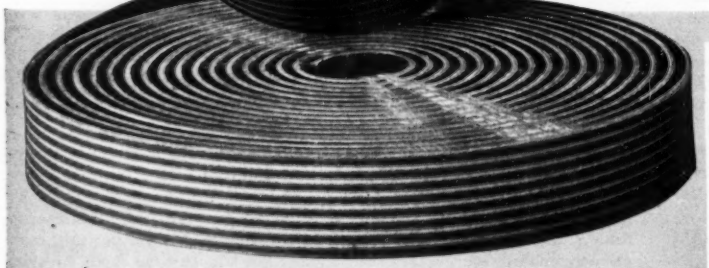

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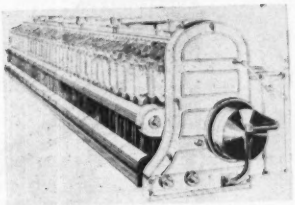
Profits from Effective Textile Machinery Lubrication

Article 4—Roving Frames*

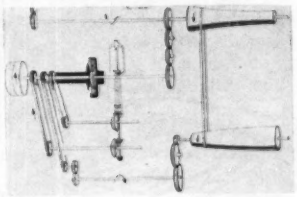
GOOD ROVING is essential to good yarn. This discussion deals with the lubrication practice that promotes the smooth, efficient, and dependable operation of roving frames, and with the effect of approved lubrication practice on the profitable production of cotton yarns.

Improvements over the years in the design of roving frames have done little to alter the fundamentals of the roving process. Refinements in the process, however, have resulted in fewer operations, greater production, and better quality of product. Better bearings, better gears, better lubricants, and better methods of lubrication have resulted in less wear, lower maintenance, less down-time for adjustments and repairs, and a considerable saving of power.

In many cases, the plain bearings of top and bottom draft rolls, cone shafts, counterweight sheaves, and main shafts have been replaced with anti-friction bearings. This has resulted in additional savings in maintenance and power, and in improved production. Since the lubrication of these bearings presents a special problem, they will be discussed separately under the heading "Anti-Friction Bearings."



BETTER BEARINGS, better gears, better lubricants, and better methods of lubrication for roving frames have resulted in less wear, lower maintenance cost, less down-time for adjustments and repairs, and a considerable saving of power.



lubricating the drafting rolls

The plain bearings of bottom (steel) draft rolls are normally hand-oiled. In order to reduce wear, maintenance, and power consumption, however, they should be run for several months with an extreme-pressure lubricant to establish a durable polish on the bearing surfaces. Each bearing in the front roll assembly should then be oiled every 16 hours with a single drop of a good heavy-bodied general purpose textile oil. And each bearing of the intermediate and back rolls should be oiled weekly with a single drop of the same oil.

Even then, it may be necessary to return to the use of the extreme-pressure lubricant from time to time, in order to re-establish the necessary polish on the bearings.

After the roll stands are scoured at periodic intervals, the journals of bottom draft rolls should be covered with a stiff cup grease before oiling, and the front roll assembly should be grease-packed.

The nebs of top draft rolls should be oiled sparingly every 40 hours. This can be done by smearing just a little of a good heavy-bodied general purpose textile oil on the nebs, using either the tip of a finger or a small swab. Plain shell rolls should be cleaned before oiling to remove fly that might score the arbors.

Saddles, weighting the top rolls, are fitted with wicks that supply a small regular amount of oil to the roll necks. These wicks should be kept saturated with a good heavy-bodied general purpose textile oil.

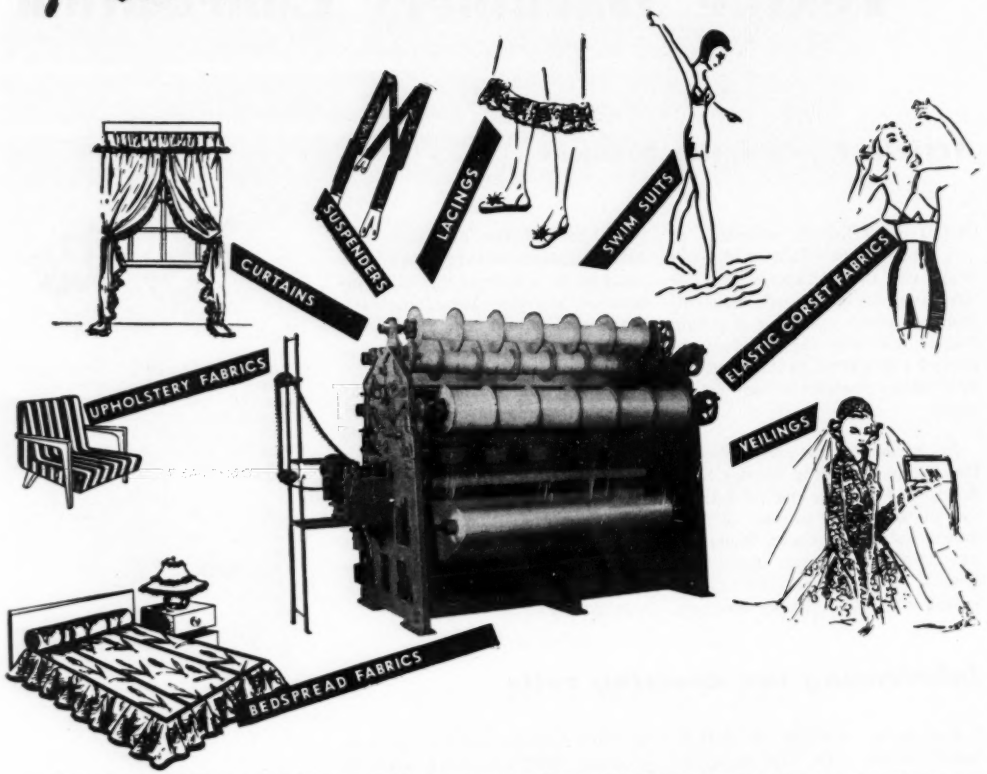
Wicks should be kept free from dirt and from any soap that may have separated from a semi-fluid grease. From time to time, they should be removed, cleaned by stripping them through the fingers, saturated again with oil, and replaced.

EXCLUSIVE

By F. S. JONES
Lubricating Department
Socony-Vacuum Oil Company, Inc.

*Previous articles in this series were published as follows:
Article 1—Opening and Picking Machinery; July, page 92.
Article 2—Cards; August, page 129.
Article 3—Combing and Drawing Machinery; September, page 177.

A Variable and Profitable Producer REINER KAYLOOM



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In the warp knit line, Reiner also manufactures Tricot Machines, Simplex Machines, Creels and Warpers for all requirements.

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flyer spindles

Spindle and bolster bearings are sparingly hand-oiled every 80 hours with a good, medium-heavy-bodied, general purpose textile oil.

The same oil is applied every 40 hours to hand-oiled step bearings, and every 320 hours to bath-oiled steps.

Lower guide bearings are usually packed with a fairly stiff textile grease before oiling. They are then oiled by hand along with the spindle bearings.

spindle and bobbin shafts

The hand-oiled plain bearings of spindle and bobbin shafts are lubricated sparingly every 8 hours with a good, medium-heavy-bodied, general purpose textile oil.

Spindle and bobbin gears are lubricated once a month with a fairly stiff textile grease.

cone shafts

Plain cone shaft bearings are hand-oiled and are lubricated every 8 hours sparingly with a good, medium - heavy - bodied, general purpose textile oil.

gear compounds

Spur gear transmissions and bevel gear differentials are enclosed and splash-oiled. They require either a light cylinder oil or a good heavy-bodied textile oil. Oil containing soap that might separate and form deposits should not be used.

It is good practice to drain these compounds every 3 months, flush with clean oil, and refill. Care should be taken to fill only to the proper oil level. Overfilling results in excessive leakage. Underfilling results in excessive wear.

carriage trucks and counterweight sheaves

The hand-oiled bearings of the carriage trucks and of the counterweight sheaves of the lifter motion are lubricated twice weekly with a good medium-heavy-bodied, general purpose textile oil.

main shaft

The plain bearings of the main shaft are hand-oiled, and require the sparing application every 8 hours of a good, medium-heavy-bodied, general purpose textile oil.

Profits from Correct Lubrication

The regular and spring application of correct textile oils, and the proper application of high quality anti-friction bearing greases, result in reduced wear, lower maintenance, less spotting of finished rovings, and greater production of finished yarns. Not the least of the economies, however, are the savings in power consumption when ordinary oils are replaced by good textile oils. The following table is the record of performance on 24 roving frames, having a total of 3856 spindles, and driven through line shafting by a single motor:

Lubricant	Starting Load (kw)	Average Running Load (kw)	Friction Load (kw)
Ordinary Oils	48.50	39.25	9.0
Good Textile Oils	44.63	35.40	6.0

anti-friction bearings

Top draft rolls are sometimes equipped with anti-friction bearings. Needle bearings are lubricated every 4 to 6 months with a good, medium-heavy-bodied general purpose textile oil. Ball bearings are lubricated with a high-quality, ball - and - roller - bearing grease, which is applied every 4 to 6 months by means of a gun.

For proper lubrication, shells should be removed, and arbors and needles should be cleaned in the regular lubricating oil before the rolls are re-assembled.

The ball or roller bearings of bottom-draft rolls are usually grease-packed. They require cleaning every 4 to 6 months. They then should be repacked with the proper amount of a high quality anti-friction bearing grease.

Ball and roller bearings on cone shafts, carriage trucks, and counterweight sheaves have reduced wear and have done much to correct the erratic movements of the lifter motion that sometimes results in poorly built bobbins. The right amount of a high quality anti-friction bearing grease is applied to these bearings once a month by means of a gun.

Anti-friction bearings on main shafts have resulted in smoother operation and lower consumption. These bearings are packed every 4 to 6 months with the right amount of a high quality anti-friction bearing grease.

open gears, chains

Open gear trains, chains, and miscellaneous parts should be lubricated sparingly with the general purpose textile oil used in the mill. The oiling should be done in accordance with the instructions issued by the builders of the machines.

centralized oiling systems

Recent models of roving frames have incorporated centralized oiling systems in their design. When equipped with the correct sizes of metering valves, these systems take care of much of the hand-oiling requirements, such as open gears and miscellaneous bearings around the head. All an operator has to do is to pull the T-handle once a day, and these parts are lubricated automatically.

(To be continued)

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- ✓ Vibration problems eliminated and perfect alignment assured throughout creel, size box and head end, by structural rigidity of frame.
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- ✓ Rolling and taping eliminated and uniform circulation of size assured by size box design.
- ✓ Uniform temperature throughout size box assured by efficient heating and insulation methods.
- ✓ Thorough cleaning of size box simplified by easy accessibility and rapid dumping.
- ✓ Accessibility of comb to slasher tender improved by head end arrangement.

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Variable Torque Vise

speeds Pressley fiber strength test

LYLE E. HESSLER and BILLY K. POWER

Cotton Research Texas Technological College*

EXCLUSIVE

NOW that mills, merchants, and commercial laboratories find themselves in need of rapid methods of fiber analysis, many laboratories are finding the going difficult because some of the instruments are not geared to mass production, and many failures are showing up. A competent operator of the Pressley strength tester can run approximately 200 individual breaks a day. Such extensive use places the wrench and jaws under a good deal of stress.

The Joseph M. Doebrich Company, Tucson, Arizona, is the sole maker of all Pressley equipment. The stationary vise is supplied with a torque wrench which sometimes fails and may give erroneous results under hard usage. The torque wrench is more abusive to the hands than the proposed T-wrench which may be substituted in the proposed method of applying pressure to the jaws.

We may run as many as 20,000 Pressley determinations in a year, and our technicians prefer the method described herein. Laboratories and mills may make the modifications to the vise and wrench sold with the Pressley equipment. The vise, various parts, and the bearing may be assembled easily in any machine shop.

The importance of jaw pressure in testing cotton fiber by the Pressley Strength Tester has been well established (1). The repeated application of pressure results in the leathers being compressed down to the point where slippage of fibers occurs. The torque wrenches, as used by many laboratories, are responsible for irregular pressure in that their performance changes from time to time and even from sample to sample. Failure of the torque wrench becomes more and more apparent under hard usage.

In an attempt to overcome variable jaw pressure, the laboratories of Texas Technological College have employed a change in the design of a pivoted vise in use at some laboratories (2) (3). Essentially, it consists of a vise pivoted from the center and mounted on ball bearings for less drag and truer tension.

Pivoted Vise. The vise in Fig. 1

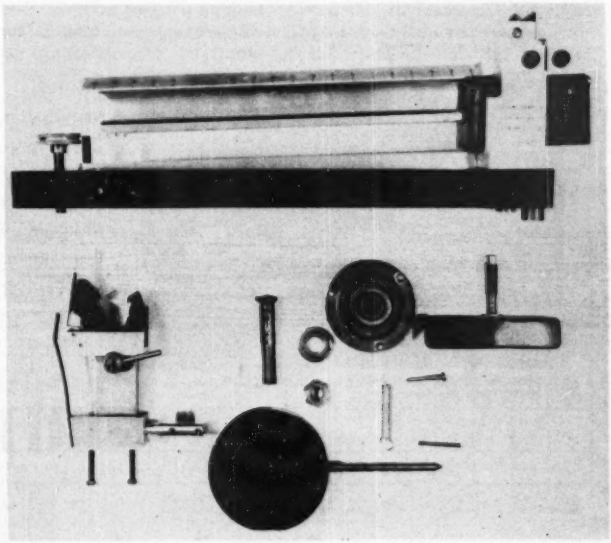
*One of the laboratories sponsored by The Cotton Research Committee of Texas, Mr. John Leahy, executive director.

[1]Williams, S. and Painter, E.W., Textile Research Journal, 15, 403 (1945).

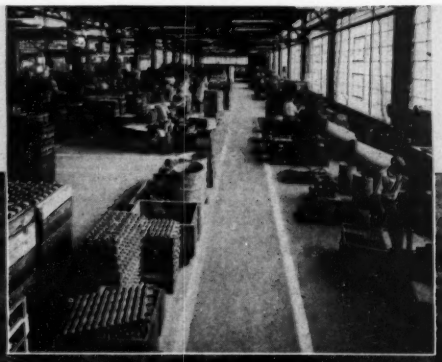
[2]Simpson, D.M. and Hertel, K.L., Journal of Agricultural Research, 73, 97-111 (1946).

[3]U.S.D.A. publication "Better Cottons," Agricultural Research Administration, Bureau of Plant Industry, Soils, and Agricultural Engineering, Division of Cotton, Other Fiber Crops and Diseases.

FIG. 1. Vise assembly for pivoting to give constant jaw tension.



New Butterworth Plant



Upper right, new link room for manufacture of chains used in Butterworth Tenters—straight automatic, vibratory, mercerizing, return.

Above, main erection floor in new plant. Boxing and crating operations in foreground.

Sheet metal shop for fabrication of housing and parts for Butterworth Machines.

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and Fig. 2 shows the mounting using a ball bearing as a means of pivoting the vise for free action. A number of different types of ball bearings can be used; however, the one shown in the illustration may be counter-sunk into a block of wood to supply a firm base for the vise. The plastic base of the vise is then bored and countersunk to accommodate a bolt used for fastening it to the block and bearing. A pointer is inserted into the base of the vise, and with the aid of a spring a constant pressure can be maintained on the Pressley jaws.

The correct pressure can be determined for each set of jaws by correcting the jaw pressure to standard check cotton. Thus much of the uncertainty of the torque wrench can be eliminated. A T-wrench should be substituted for the torque wrench, and if properly made, the T-wrench should be much easier to handle. Under known pressure (just enough to avoid slippage) the leathers will require much less attention.

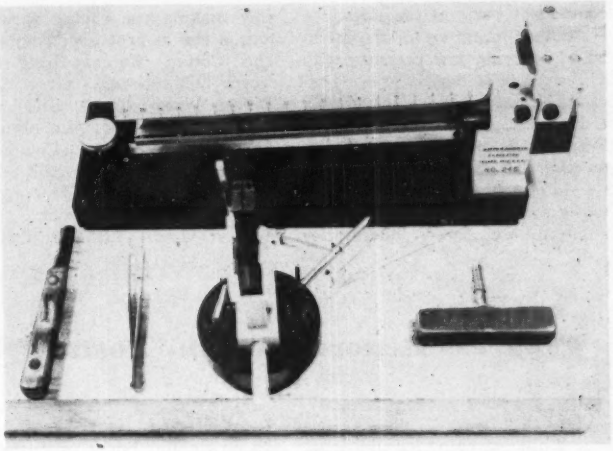

FIG. 2. Mounted vise, showing spring tension.

Comparative Results. The mean and standard deviation for the standard check cotton has been established over a period of two years by running a large number of tests in the laboratory and periodic verification of results in commercial and other fiber testing laboratories. The Pressley Index has thus been well established at a value of 7.67 with a standard deviation of .211.

In order to show the merits of the pivoted vise over the conventional torque wrench an experiment was set up in which one operator using one Pressley instrument applied the two methods with seven different jaws. Using the same standard check cotton, ten breaks were made first with one method of applying pressure to the jaws and then with the other. A statistical comparison, using variance ratio (F) and student's (t) test for the two series of data, is shown in the accompanying table.

Conclusions. The estimated sample variances determined by each method of applying jaw pressure, are compatible with the standard check cotton as indicated by the (F) test for a probability level of 5 per cent. The means or (t) test indicate that four out of seven jaws, when applying pressure to the screws by the torque wrench, yielded mean values which are significantly different statistically from the mean of the standard check cotton; whereas no significant difference could be shown for any of the seven jaws when applying jaw pressure by the pivoted vise.

It should be noticed that no difference can be shown among the means of all jaws by each method of applying torque to the jaw screws. In practice, to determine the mean values from several jaws to get one Pressley Index is impractical. By using a controllable and variable amount of torque to the jaw screws, each jaw can be expected to give more reliable results over a longer period of use. Furthermore, such a method eliminates the questionable practice of making a correction for each Pressley Index to compensate for variation brought about by the uncontrollable factors.

The vise and modifications should alleviate many problems associated with the Pressley jaws. Each set of jaws may have a predetermined load applied, depending on the pressure required to break the standard check cotton. The adjusted pressure prevents over-loading a sensitive pair of jaws and increases the pressure of a non-sensitive pair, resulting in an extended working life of the

STATISTICAL ANALYSIS of Pressley index results obtained by applying jaw pressure with pivoted vise and torque wrench. Standard check cotton was used.

Jaw No.	1		2		3		4		5		6		7	
Torque Method	P.V.	T.W.	P.V.	T.W.	P.V.	T.W.	P.V.	T.W.	P.V.	T.W.	P.V.	T.W.	P.V.	T.W.
Mean of Each Test	7.62	7.76	7.76	7.98	7.78	7.63	7.77	7.56	7.64	7.45	7.58	7.46	7.64	7.45
Estimated Standard Deviation	.300	.102	.204	.206	.228	.278	.272	.365	.130	.190	.289	.270	.152	.286
Variance Ratio "F"	2.0	2.3	1.1	1.0	1.2	1.7	1.7	1.6	2.6	1.2	1.9	1.6	1.9	2.0
Student's "t"	0.7	1.3	0.2	4.6*	1.6	0.6	1.5	1.6	0.4	3.3*	1.3	3.1*	0.4	3.0*

$(F)_{.05} = 3.0$
$(t)_{.05} = 1.8$
$n = 10$

Standard Check Cotton Mean = 7.67, S.D. = .211
Mean of all jaws with Pivoted vise = 7.67
Mean of all jaws with Torque wrench = 7.62

P. V. = Pivoted vise
T. W. = Torque wrench

component parts of the jaws.

Another incentive for the method of applying jaw pressure with a T-wrench is that it greatly reduces operator fatigue in running a large number of samples over long periods of time. Several commercial laboratories have found the torque vise speeded up their work and gave reliable results.

There are three laboratories now making use of the variable torque vise as proposed. They are: The Cotton Merchandising Research Laboratories, University of Texas, Austin, Texas; The Acco Fiber and Spinning Laboratory, Anderson, Clayton and Company, Houston, Texas; and the Otto Goedecke Laboratory, Cotton Merchants, Hallettsville, Texas.

Note: Credit for the pivoted vise to regulate jaw pressure has been difficult to establish. Recently, it was verified that a pivoted vise was in use by the operators of the Cotton Research Committee of Texas at the University of Texas as early as 1943.

Acknowledgment. Acknowledgment is gratefully made to Herbert E. Kieke for aid in developing the vise.

Progress Report: British "Positex" Rubberizing Process

While searching for additional markets for rubber, the British Rubber Producers' Research Association in cooperation with the Wool Industries Research Association attempted to find a use for rubber in connection with wool. If a process could be developed whereby a rubber derivative would make possible the production of worsted yarns from shorter wool fibers or less twist without loss in strength, it would be a valuable contribution to the wool industry and at the same time serve as another outlet for rubber.

Evolving from this research was a treatment known as "Positex." It is explained that the rubber which deposits from Positex is in the form of minute particles and so has no effect on the wetability with water or the air permeability of the textile material; whereas in the case of spreading with or dipping in ordinary latex, textiles become covered with a film of rubber which is air-impermeable and water-proof.

Positex Process Theory. It has been found that for rubber particles to deposit on a textile fiber when it is immersed in a latex, it is necessary for the fiber to possess a different electrical charge from the latex. It is upon this principle that the Positex process functions.

When a textile fiber is immersed in an alkaline liquor, it develops a negative charge. Latex treated with a cationic soap in an alkaline liquor produces a positive rubber. Consequently the positively charged rubber particles deposit on the negatively charged textile fibers when the two are brought together.

What Positex Does. The deposited rubber particles act as flexible cement, forming bridges from one fiber to another, and reduce or prevent the movement of fibers with respect to their neighbors. It is this fiber anchoring which is the basis of the use of Positex.

When tension is applied to a soft or loosely twisted yarn, a point is reached where fibers begin to slip and the yarn then breaks. If such a yarn is treated with Positex, this fiber slippage is reduced or prevented, depending on the amount of rubber deposited, giving increased tensile strength. It is thus possible to obtain a soft twisted yarn which, after rubberizing, not only retains the characteristic handle of such a yarn but in addition possesses the tensile strength of a yarn with much higher twist. Also, the extension of such a yarn under tension is less after rubberizing than before.

Of course, the same benefits are also conferred on cloth. More time is required for a hole to wear in a garment made of Positex treated material, due to the fact that the process holds the fibers in place. Tendency for knitted or loosely woven Positex treated fabrics to "pill" is also reduced. Likewise, tendency to felting is reduced.

How Positex is Applied. It has been said that the process of putting Positex on wool is primarily one of "surface chemistry," and the state of the surface of the wool fiber is therefore of critical importance. When the textile material has been adequately pretreated by scouring, rinsing, etc., it is then usually hydroextracted and is ready for the Positex application.

Yarn may be treated in the hank form in a circulating bath. Woven or knitted materials, felts, etc., may be impregnated either by padding or spraying.

Sphere of Application. Positex deposits to a greater or less extent on most fibers, but the benefits to be expected would appear to be much greater with wool than with other types, because wool possesses certain characteristics, in particular that of fiber movement, which can be changed considerably by the application of small quantities of rubber.

With some fibers the relative cost of rubber is so great as to render uneconomic any but special applications of this treatment. In the case of rayon, the affinity for Positex is small so that complete exhaustion of the bath is never obtained. Mohair would appear to have no affinity whatsoever for Positex. With asbestos and glass, on the contrary, exhaustion is very good.

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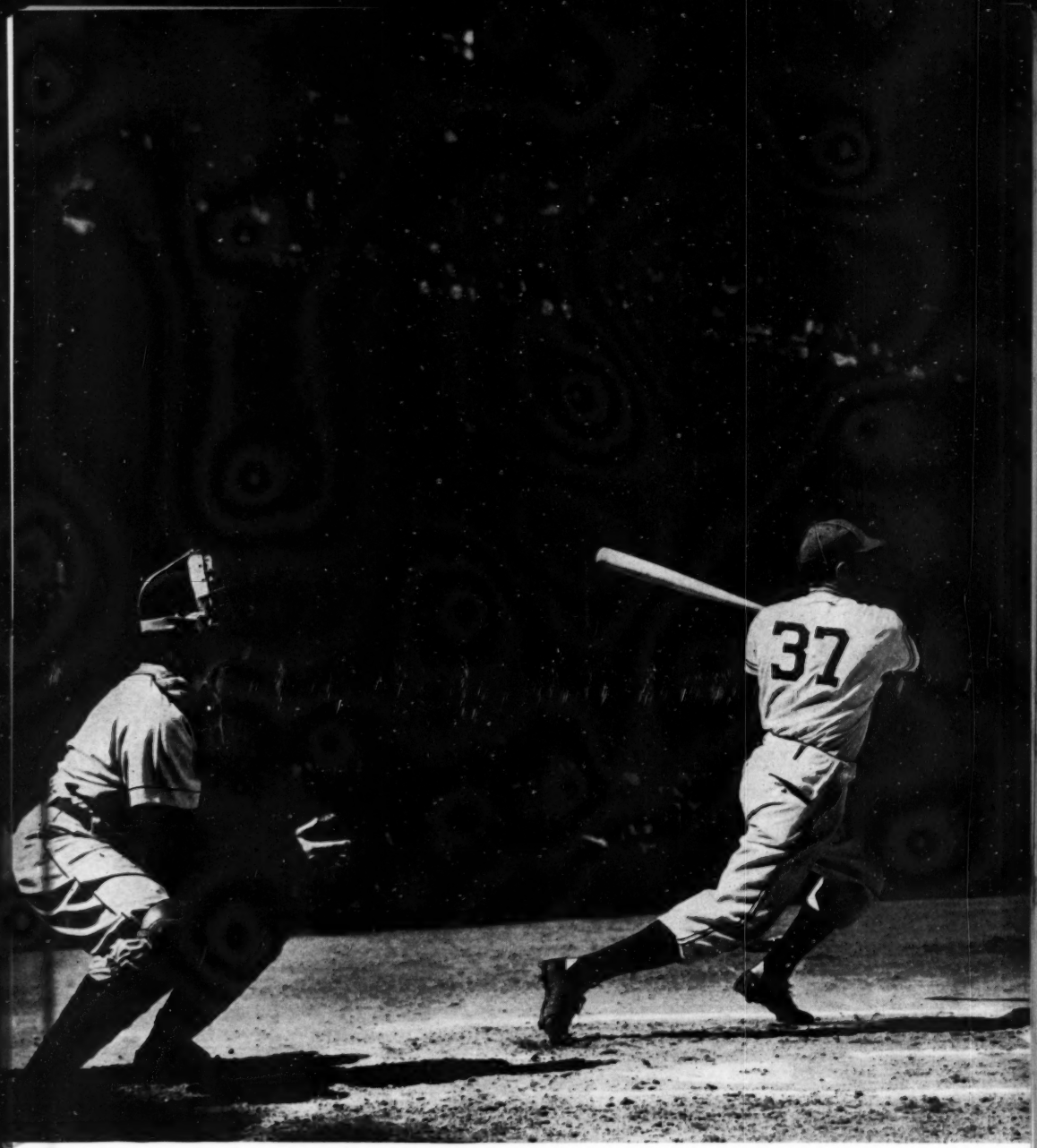

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Ed Delahanty, one of the immortals of baseball, is the only ball player who ever won the batting championship of both major leagues. With the Phillies in 1899, he hit .408 to lead the National League. With Washington in 1902, he hit .376 to lead the American League.

BUT how does he compare with Delahanty? . . . In everything we do, we make comparisons . . . In Full-Fashioned Knitting, the one standard for comparison is the 30-section "Reading" Machine with a production of 14 to 16 dozen pairs of superior quality stockings in 8 hours. 51-gauge, 60-gauge.

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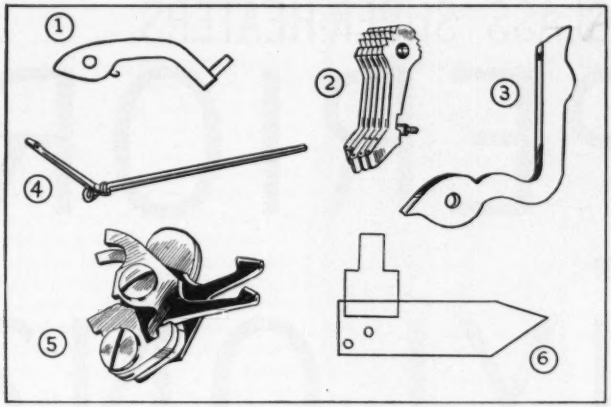

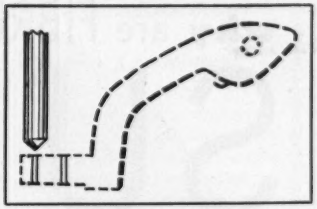

CARBORUNDUM STICKS are especially useful for removing sharp edges from yarn feeding devices such as the ones shown in the box at the left: 1, Scott & Williams yarn finger; 2, Standard yarn finger; 3, Banner yarn finger; 4, Komet yarn feeder; 5, Fidelity ribber finger; 6, Brinton yarn carrier. How pointed round stick is used to polish S&W yarn finger may be seen in the sketch above.

Polishing Tools

for circular hosiery machine fixers

By ERNEST BRIDGES

EXCLUSIVE

SPEND a day with a hosiery machine fixer, watch him at work, and you will find that he spends a considerable amount of time repolishing various parts to keep them in good condition. In days gone by, much of this work was done by hand with emery cloth, crocus cloth, and emery cord; a considerable amount of work must still be done in this manner.

Manufacturers of electrically driven hand polishing and grinding tools have made great progress in designing special tools which make it possible to do a better job in less time. The three old standbys—emery cloth, crocus cloth, and emery cord—are suitable for many jobs but not all (on today's modern machines it takes more than that), so we turn to carborundum stones. These can be purchased in sticks about 4" long in various shapes and sizes including round, square, triangular, diamond, etc. The stones are suitable for many jobs where a highly polished finish is not essential, and every hosiery machine fixer should have a full assortment of the stones in his tool kit.

The only polishing stones I have found to date which will cut the hardest steel and leave a highly polished finish are Arkansas Hard stones. They may be purchased from any good mill supply house in ¼", 5/16", and ⅜" square, triangular, and round shapes. I have wondered why they are called Arkansas Hard stones when they actually are soft in texture; when corners become dull or rounded from hard usage they can be reshaped with an ordinary mill cut file. A half dozen assorted sizes and shapes will take care of practically any job which cannot be done with any other type of stone.

In many instances a combination of two types of polishing equipment may be used effectively. For example: every knitting machine has yarn guides, levers, fingers, and feeders. These respective parts, although having different names, all serve the same purpose; namely, to feed yarn to the needles. In time the yarn will cut a small gap in one side of the feed hole, and this means trouble as long as the gap remains. Most fixers grind off sufficient stock to remove the gap, then use yards of emery cord to polish off the raw razor-sharp edges left by grinding. A much simpler and faster method is to grind first; then use a pointed round carborundum stick placed in a drill press chuck or hand drill to cut away the raw edges. Finish with a 10-inch piece of emery cord or a strip of crocus cloth twisted to form a cord. The accompanying illustrations show several parts, from different types of machines, which can be repolished.

An example of how the round carborundum stick may be used to good advantage on a Scott & Williams yarn finger is shown also. When the point of the carborundum stick becomes worn, it

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Some mills get a poor "hand" because their cloth touches heated metal. Why put a **hot iron** on a synthetic fibre? Heat-set the cloth on the delivery end of your tenter or drier with Fibre Glass Super-Heaters in tandem with the drying operation.

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Many mills prefer to heat-set Nylon after dyeing and save handling costs. This is usual procedure with users of Fibre Glass Super-Heaters, because black radiant heat has no discernible effect on dyed colors—not even the delicate pastels on tricot. And glossy blacks remain glossy black.

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We think good residual shrinkage is this: **Less than 1% shrinkage in both directions on Nylon tricot.** If you can get such results on tricot, you'll not have to worry about results on woven goods, spuns, nets and laces.

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may be ground to shape on a fine grinding wheel by turning the stick while grinding as in grinding a point on a center punch. Save time, labor, and emery cord by using carborundum sticks to polish guide holes.

Arkansas Hard stones are useful for removing sharp edges and burrs on numerous parts found on practically every knitting machine —also on loopers, ribbers, and sewing machines. There are quite a number of parts which all knitting machines have in common. For instance, they all have up and down picks, having a variety of names but all answering the same purpose. The picks serve to raise and lower needles during heel and toe knitting operations. For example, assume that a down pick has been broken on a Scott & Williams machine. A new one must be fitted.

The picks come in the rough, and ample stock is left so that they can be fitted to various diameters and gauges of machines. The operating ends must be ground to get the proper over-all length, and the lips must be narrowed to suit the gauge and number of needles. When the end of the pick is ground off, a razor-sharp edge remains. If the edge is not removed it will cause the pick to cut into the needle butts and prevent free release of butts while being picked down. A few strokes with a ¼" square Arkansas Hard stone (held at a 45-degree angle) across these rough edges will remove burrs and leave a smooth rounded edge, and the new pick is ready for service.

It is next to impossible to remove the rough edges of a ground down pick with emery or crocus cloth and do a neat job. There are dozens of similar jobs where these stones can be used to good advantage on various types of knitting machines, ribbers, and loopers. The cost of the stones is nominal, and once a fixer owns a set he may wonder how he managed to get along without them.

Earlier in this article we mentioned electrically driven hand grinding and polishing tools which are now on the market. There are a half dozen different makes of electrically driven hand grinding and polishing tools to choose from. Some come with complete kits of assorted grinding and polishing wheels mounted on small arbors. The assorted wheels are ideally suited for close grinding and fitting jobs. A rubber bushed arbor on which a ½" x ½" tubular polishing pad is mounted comes with some of these grinding tools. Such equipment is exactly what the doctor ordered for today's complicated machines.

Some mills supply fixers a full set of tools, and they are wise in doing so, for these tools irrespective of their initial cost will pay for themselves in a short time. Others who do not supply them are actually paying a higher price in trying to get along without them. Whether or not a machine fixer does a good job depends a lot on the kind of tools he uses. His personal tools and those supplied by the mill should be the best obtainable. Cheap tools are expensive to own.

Clemson Textile Quality Control Conference

Staff Report

The Textile Committee of the American Society for Quality Control sponsored a conference on textile quality control at Clemson College on August 23-24. Representatives of mills from West Virginia, Virginia, North Carolina, South Carolina, Georgia, and Alabama heard nine experts speak on various phases of textile quality control.

Joel F. Hembree, Cotton Research Committee of Texas, told the group how changes were coming about in the buying of cotton, more and more mills each year purchasing according to specifications determined by physical testing. He also said that study of environment conditions and species would very closely predict the characteristics of the cotton.

Miss Mary Jo Wesson, Research Division, West Point Manufacturing Company, gave a simplified outline of the statistical approach to quality control. She showed a number of very interesting charts to illustrate the manner in which quality control data may be used to predict production trouble and locate it quickly.

The inspection methods used in purchasing cloth for the cutting trade were discussed by Capt. Robert M. Kennedy, U. S. Marine Corps. Capt. Kennedy suggested that there might be some better method of compensating for defects in cloth than the standard method of giving an extra one-eighth or one-quarter of a yard for each defect. He did not suggest any alternative for the currently used plan.

L. I. Horner, Celanese Corporation of America, described a number of tests run to determine the cause of ends down in warping. It was found that most of the trouble came from rough or defective bobbins. A maintenance program on bobbins reduced ends down by 70 per cent.

The final paper of the first day of the conference was on "Application of Quality Control in Worsted and Woolen Manufacturing," presented by Fred W. Noechel, of Johnston Mills, Inc. He explained how Correlation Analysis could be used as a statistical method to determine cause and effect and point to the cause of defective work. He had a number of statistical charts on quality control for woolens and worsteds.

The second day of the conference was opened by a talk on quality control as applied to the manufacture of textile machinery. It was prepared by John T. MacDougall and William Cunningham, of Saco-Lowell Shops. A number of slides showed the methods used in the Saco-Lowell Shops.

Norbert L. Enrick, Werner Textile Consultants; R. H. Souther, Cone Mills Corp.; and T. R. Bainbridge, Tennessee Eastman Corp., completed the program.

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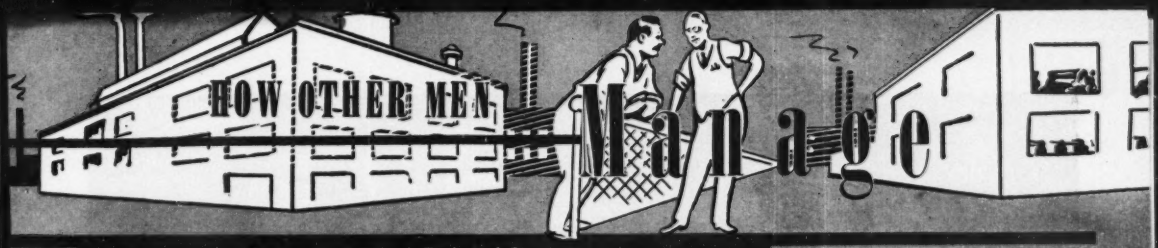

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EXCLUSIVE

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Discussion: Size Formula for Rayon-Cotton Blends

EDITOR TEXTILE INDUSTRIES:

We are about to begin a project in connection with blending viscose with cotton and would appreciate your readers advising us the type of size to use in slashing; also the proper loom settings.

The Style:

Warp: 40s, one-third of blend 1½ denier bright viscose, 1⅝" staple; two-thirds 1⅛" combed cotton. Filling is the same blend, making 42s. Warp 127 ends, picks 68; eight harness plain weave.

Due to mixing the cotton and the cut staple together, we are wondering whether we should use the cotton size or the cut staple size.

The cotton size may require a harsher treatment by the converter; but then on the other hand, will the cut staple size be satisfactory for a two-thirds cotton blend.

The fabric construction is exactly the same as our combed cotton broadcloth.

CONTRIBUTOR No. 8337

◆

EDITOR TEXTILE INDUSTRIES:

My recommendation for sizing warps of 40s yarn, made from a blend of one-third 1½-denier 1⅝" staple bright viscose and two-thirds 1⅛" combed cotton, is to use a cut staple size instead of a cotton size mix.

Although the regular cotton broadcloth size may be entirely suitable for sizing and weaving the cotton-viscose blend, the compound may not be removed satisfactorily by the treatments usually practiced in desizing, dyeing, and finishing rayon blends.

Size materials suitable for the blend may be found in conventional British type corn gums or in the new slow-congealing corn starch ether gums. A rayon sizing wax should be used in conjunction with the gum. The waxes are usually supplied in block form by the size compound manufacturers, and they contain approximately 100 per cent fat. Constituents of the waxes are animal and vegetable glycerides.

An approximate size formula is as follows:

100 - 110 lb rayon sizing gum
5 - 6 lb sizing wax
100 gallons finished volume after cooking

The gum should be thoroughly mixed with cold water in the cooking kettle and raised to the boiling point within 30 to 45 minutes. Wax should be added immediately after the gum has been mixed in the water.

Size box temperature should be maintained at 200 to 205 F, the

KINK CONTEST

$ $ Your Idea May Win $100 $ $

ONE HUNDRED DOLLARS will be paid for the most helpful short cut, kink, time-saving device, cost-cutting suggestion, or quality improvement idea submitted by November 15.

Contest Rules:

(1) All material submitted will be paid for at regular space rates, upon acceptance—no waiting to receive payment for contributions.

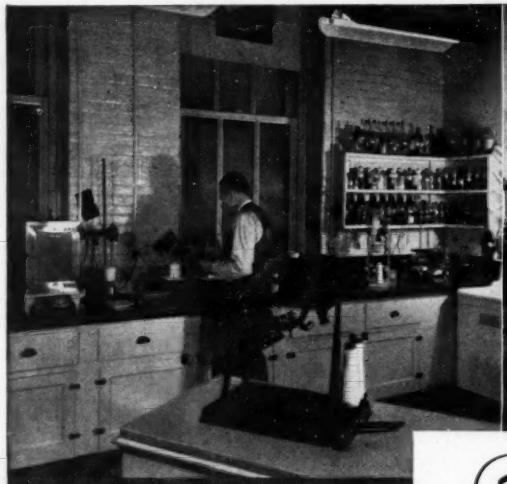
(2) $100 awarded for winning entry is in addition to regular payment.

(3) Contestants may submit any number of entries to compete in the contest.

(4) All entries for the $100 award must be postmarked not later than midnight, November 15, 1951.

(5) Contributions must not have appeared elsewhere and must not be sent to any other publication.

A photo or rough sketch will make your idea more valuable. Jot down your short cut as clearly as possible and mail it to: Editor "Textile Industries," 806 Peachtree Street, N. E., Atlanta, Georgia.



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Look over the partial lists of operations and products on this page. Write us about *the improvements you want* in your sizing or finishing operations. We'll gladly lend you valuable aid in utilizing the advances of textile research in meeting today's production goals of, 1. High quality, 2. Low cost, 3. Improved output.

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same as for all-cotton yarn. The cotton-viscose blend will have lower wet-strength than all-cotton, and care should be taken not to brake the section beams beyond the minimum requirement for good slashing.

The temperature of drying cans and the amount of stretch during slashing should be controlled as though the yarn were all-cotton.

CONTRIBUTOR No. 8340

◆

EDITOR TEXTILE INDUSTRIES:

I recommend to CONTRIBUTOR No. 8337 that his blend of one-third viscose and two-thirds combed cotton be sized with a mix particularly designed for the cut staple size in order to relieve the problem of desizing and subsequent finishing. This sizing is probably being done most successfully today by using the British type corn gums and in much the same way the regular thin boiling starches are used for sizing straight cotton.

These special type gums have the advantage of being more easily removed due to their increased solubility in water at relatively low temperatures. Corn gums may be prepared at about the same concentrations as regular thin boiling corn starches and applied in the size box at about 200 F. As for warp lubrication, the emulsion type of high melting point and saponifiable fats should be used instead of the usual type of sizing compounds for cotton slashing.

The same loom settings and same humidity conditions that have been employed for the 127 x 68 combed cotton broadcloth should be satisfactory for the blend.

CONTRIBUTOR No. 8339

Other mill men with experience in sizing cotton and rayon blends are invited to submit their opinions on this controversial subject.

Helpful Comments On Nep Control

Long a reader of the HOW OTHER MEN MANAGE department of TEXTILE INDUSTRIES, I have read with interest the many items which have appeared in recent months on the problem of neps. Although mill men have been concerned about neps for a long time, increased interest seems to have been aroused in view of the nep project at the Textile School of North Carolina State College. I was fortunate enough to visit N. C. State College, a few months ago, and observed the work that J. F. Bogdan and his associates are doing on this project.

(See article "Review of Literature on Neps," page 98, TI for January, 1950).

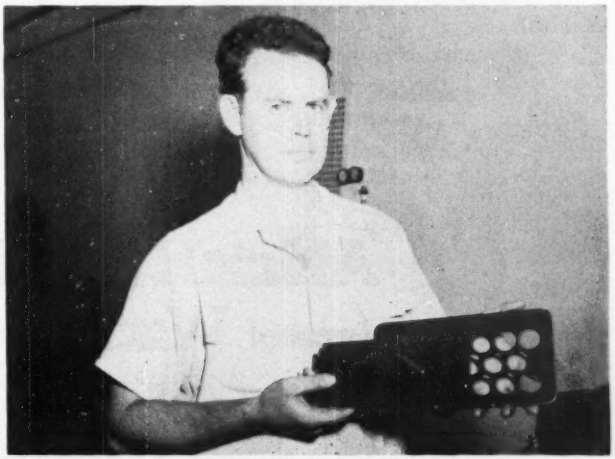
Our mill has been working on nep control for a number of years, and while we have made no spectacular progress, we have learned several things which should be helpful.

The type of cotton which we are running definitely affects the nep count. For example, in running a high per cent of irrigated cotton in our mix, we can expect the fine fibered staple to give a high nep count. Upland, rain-grown cotton will have just the opposite effect on nep count.

We are sure that neps are made in the various processes from opening through carding. The fact that some cards show a consistently high nep count, while others show an equally consistent low nep count indicates that our cards are among the worst offenders. All of our card room processes the same cotton mix, but some of our card grinders are able to keep a lower average nep count than other grinders. This indicates that grinding and setting the cards has a definite effect on the nep count.

The opening and picking processes contribute to nep formation, perhaps to a greater extent than many of us realize. Excessive beater speeds, improperly regulated air currents, nicked or rough castings, beater blades, pins, nuts, and screws with which the fibers come in contact all help to form neps.

Template for counting neps, as used by Contributor No. 8409.



Picker Repair Parts--*Quickly*

We keep in stock for prompt shipment all parts for Kitson pickers as well as those of our own manufacture. For years we have shipped practically all repair part orders within 24 hours from the receipt of the order.

Most of our customers keep few, if any, picker repair parts in their stock rooms, but depend on our stock for service. This will be particularly desirable during the war emergency, when one large, available stock of parts can take the place of hundreds of incomplete stocks which would tie up a great deal more critical materials than the one large stock.

Our hundreds of regular customers are familiar with our service and depend on it. To those who are not our customers, we extend a cordial invitation to come to us in any emergency in the picker room.

We manufacture a complete line of picking, opening and blending machinery, and also rebuild like new old machines which are in need of replacement.

AldricH MachinE

Greenwood WorkS South Carolina

Inasmuch as we have made the card grinder the key man in our nep reduction program, during recent months we have adopted a schedule of counting neps on the day *following grinding*. If the grinders grind and set 15 cards today, then tomorrow we will count neps on these same fifteen cards. This procedure gives the grinder the benefit of having the count made when the card is in good condition.

Our cards are equipped with continuous strippers, and they are stripped by hand only twice in twenty-four hours. So far we have found no appreciable increase in nep count during the stripping cycle, except on cards where the continuous stripper failed to function properly.

Formerly we collected our specimens of card web for counting, brought them to the laboratory, counted the neps, weighed the web on a precision balance, and calculated the neps per grain. This method, although an accurate way of counting neps, consumed too much time and had to be abandoned. We secured one of the nep counting templates, developed by North Carolina State College, substituted a piece of black cardboard for the velvet-covered board, and now nep counts are made at the cards.

We stop the card, take a specimen, start the card, and make the count. This process is continued until three counts are made. The three counts are averaged, and from this average we calculate neps per grain as follows:

The number of square inches represented by the twenty holes in the template is 20.

Width of card (used as width of sliver) is 40 inches.

Average weight of one yard of sliver is 56 grains.

$40 \times 36 = 1440$ square inches of sliver per yard.

$$\frac{56}{1440} = .03888 \text{ grains per sq in.}$$

$20 \times .03888 = .7776$ grains in 20 square inches.

$$\text{Formula: } \frac{\text{Neps in 20 sq in.}}{.7776} = \text{number of neps per grain.}$$

Example:

If the number of neps in 20 sq in. is 12,

$$\frac{12}{.7776} = 15.43 \text{ or } 15.4 \text{ neps per grain.}$$

I should like to comment further on the nep counting template. We have used a number of boards and other methods of counting neps, but the template has one distinct advantage over others which we have used. It is possible to view and concentrate on one opening or hole at a time; whereas in using other methods the eyes tend to wander to the surrounding area, thereby causing a certain amount of confusion. By looking at only a small area at a time, we believe that the nep count is not only more accurate but faster as well. It is also less tiring on the eyes.

There is always the problem regarding what constitutes a nep. A definition of neps is given in the A.S.T.M. Standards on Textile Materials, October 1950, D414-49T, Methods of Testing Cotton Fibers, Par. 53, (b), page 275, and is as follows: "Neps are small knot-like aggregates of tightly entangled cotton fibers, usually not larger than a common pinhead, which are difficult to separate out of cotton and from which the individual fibers are generally difficult to remove. . . ."

With the foregoing definition in mind, the overseer of carding, the mill superintendent, the supervisor of the laboratory, and the technician who makes the nep counts, should make some nep counts together and agree on what is to be counted as a nep and what is not to be counted. The supervisor of the laboratory should make an occasional check count to be sure that the procedure which has been agreed upon is being followed.

We would like to hear from other readers who have used the nep counting template and read about the results of their experiences, as well as their methods of nep control.

CONTRIBUTOR No. 8409

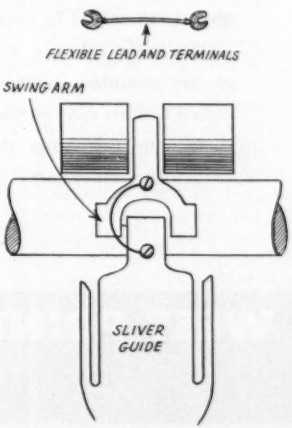
Altered Stop Motion on Lap Winder Improves Quality

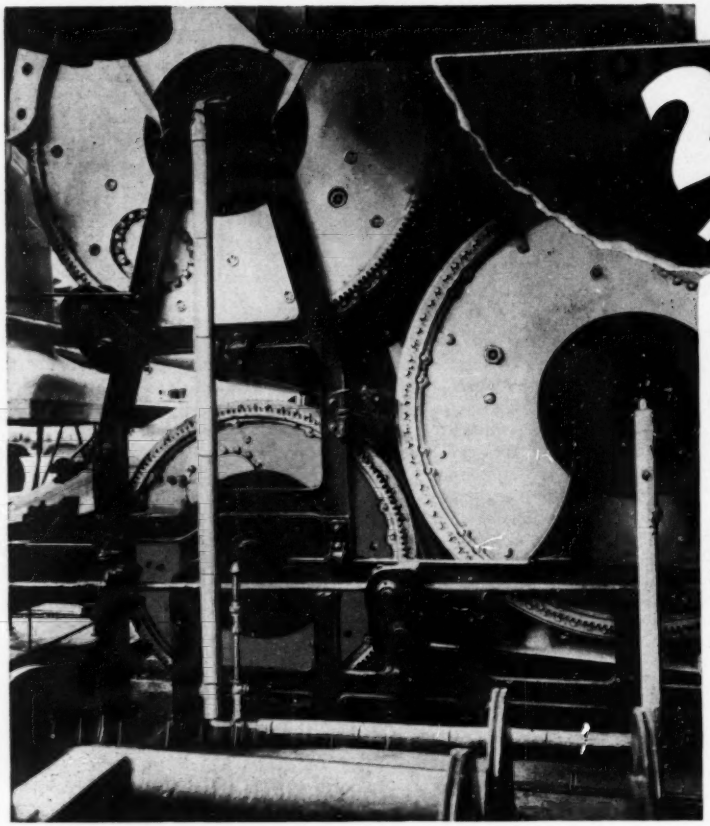
EDITOR TEXTILE INDUSTRIES:

During the past we were faced with an increasing amount of bad roving, all of which was found to be too light; this we called "single roving." In turn this was traced through the controlled drawing to the lap winder, where it was found that when one or more cans ran out, or an end broke down, the machine continued to run, unnoticed by the operators who were engaged at other machines.

The lap winder is a high production machine, and the situation became serious. Complaints regarding the same trouble were also heard from other mills in the surrounding district.

Upon examination it was found that the hinge-pin through the swing arm and sliver guide was collecting a film of rust, which prevented the electric current from passing through the sliver guide to the swing arm and from there to the top lifting roll. When a





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The extra cylinder is only one feature of the complete assembly. Specially designed contact rolls further increase drying surface by increasing the contact of the warp with each cylinder. The positive drive turns drying cylinders, removing all strain from the yarn, maintaining greater elasticity and uniformity. Ball bearing mountings on cylinder shafts and contact rolls provide smoother operation.

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can became empty, and the top lifting roll dropped on the bottom roll, no electric contact was formed to operate the stop motion and brake.

Although the fixers tried to keep the hinge-pins clean at all times, the condition entailed a considerable amount of work and anxiety for the operators to remove and clean the assembly on all of the machines.

An effective and permanent remedy was found by jumping the electric current directly across the sliver guide and swing arm. Two holes were drilled and tapped 3/16″ x ½″ in the tops of the swing arms, one hole on each, and guide plates. To these we connected a short flexible single lead wire with terminals attached. Two round head bolts were used to secure the parts.

The foregoing change proved to be the remedy for our trouble with single sliver and roving, and the fixers are free from the troublesome annoyance.

CONTRIBUTOR No. 8383

How to Stop a Mule Safely

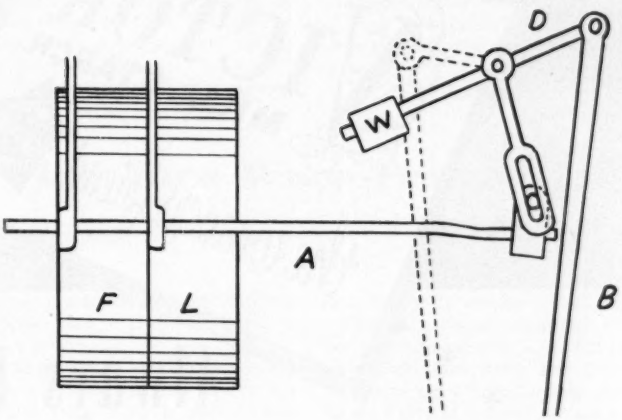
THE SPINNING MULE can be a dangerous machine in that it is sometimes necessary for the operators to work between the roller beam and the carriage. With the comparatively recent introduction of "wiping down" apparatus the necessity to work in a dangerous position has been reduced considerably. Recent improvements should reduce the number of fatal accidents.

Despite current innovations however, it is sometimes convenient from an operating point of view to stop the carriage during its outward run and perform work between the fixed and moving parts.

A study of accidents reveals the two principal causes to be: (1) the operator got between the fixed and traversing parts before the machine stopped; (2) the machine was restarted before the work was completed.

The machine makers provide equipment for stopping the mule so that it does not start again unless the operator starts it. Operators, often being preoccupied with other tasks, do not take all possible precautions.

For example: a mule with its carriage on the outward run may be stopped by transferring the down belt from the fast to the loose pulley. Then as an extra precaution the driving belt may be shifted to the loose pulley of the counter shaft. In addition, the foot or hand brake may be applied. If all these precautions are taken the carriage can not move toward the roller beam, even if one of the belts should creep or if a pulley should seize.



All of the foregoing precautions should be taken, but it is extremely difficult to convince operators who have never witnessed an accident on the spinning mule.

The method usually employed to stop the carriage is simply to transfer the driving belt from the fast to the loose pulley. Company rules may state definitely and clearly the correct procedure to be carried out when work needs to be performed between the roller beam and carriage. Strict supervision may be employed to insure that the rules are observed. It is impossible, however, to directly supervise each stoppage, and there is always the danger of a creeping belt starting the carriage and trapping an operator.

The arrangement of the striking gear for the driving belt was as shown in the drawing at one mill. The weight (W) balanced the weight of the upright rod (B), and very little effort was required on the part of an operator (or a creeping belt) to transfer the belt from one pulley to another. To prevent any possibility of the operator not fully transferring the belt onto the loose pulley when the mule was stopped, or not latching the safety catch of the starting handle, the rod (B) was transferred to the same side of the shaft (D) as the balance weight (see dotted line).

To stop the mule therefore, the

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operator has only to lift the starting handle for the weight of the rod (B) and the weight (W) to move the belt quickly and fully to the loose pulley. Moreover, to restart the mule the operator has to face the roller beam (where he could not fail to see anyone working between the roller beam and the carriage) and exert considerable force to transfer the belt onto the loose pulley.

CONTRIBUTOR No. 8420

Checking Twist in Roving

Subject Briefed: CONTRIBUTOR No. 8290, *in the September 1950 issue, described how he adapted a Suter twist tester for use in determining low roving twists. The first tests were made so that an operative could be trained to make the tests on a routine basis. In conclusion, comments and criticism were invited regarding the method of checking twist described in the article.*

EDITOR TEXTILE INDUSTRIES:

Referring to the article "Checking Twist in Roving," by CONTRIBUTOR No. 8290, published in your September issue, I should like to submit a simple and safe method to determine tpi.

The production of any revolving spindle is as follows:

$$\frac{\text{RPM}}{\text{TPI}} = \text{inches per minute}$$

$$\frac{\text{RPM}}{\text{inches per minute}} = \text{TPI}$$

To determine turns-per-inch, simply check the rpm of any spindle, and then stop the machine and put a colored mark on the roving on the front roller. Start the machine and run it for exactly one minute (or for a specific number of seconds); then stop the machine and mark the roving on the front roller. Measure the length of roving obtained between the marks, and one may easily calculate the turns per inch in average for many yards.

CONTRIBUTOR No. 8368

Builder for Fine Yarn Warp Frames

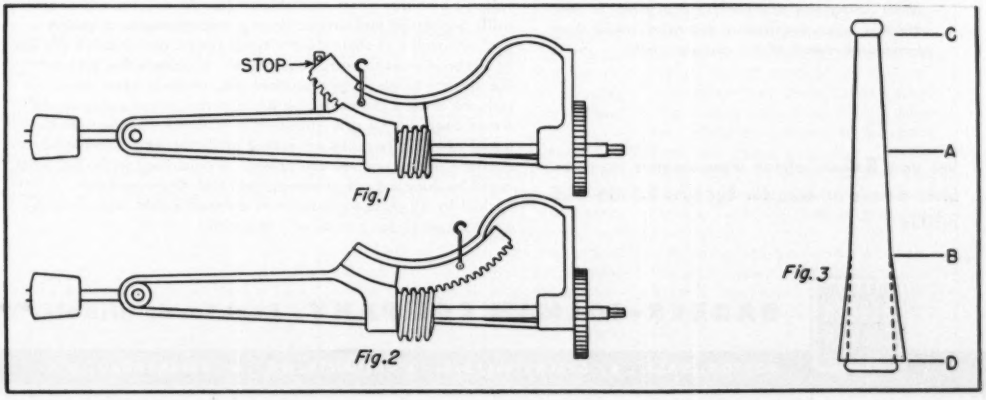
This item was submitted in a recent kink content.

EDITOR TEXTILE INDUSTRIES:

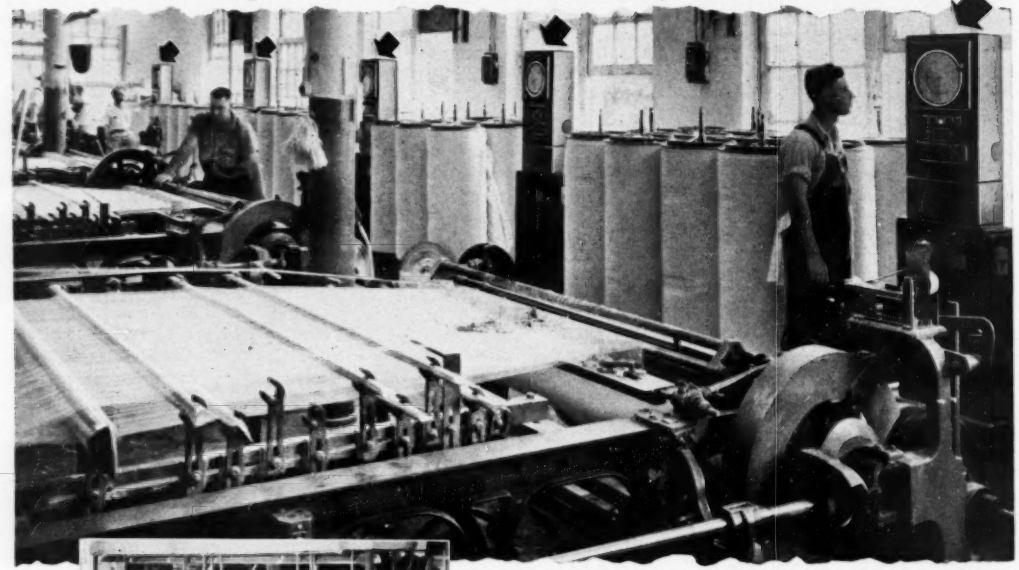
In our mill, warp builds were formerly started as shown in Fig. 2, laying yarn from C to D and finishing from A to B, as indicated on the spindle (see Fig. 3 at right). In unwinding between points CA and BD, the yarn was free for a long time before being unwound and would pick up dirt, causing soiled patterns in the finished cloth. This condition created a loss to the mill.

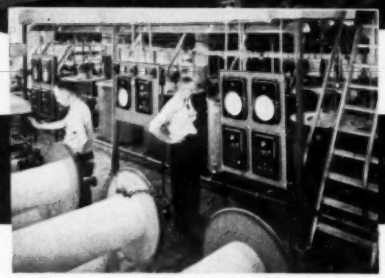
The method of building warp yarn as shown in Fig. 1 starts the build from A to B and finishes from C to D. In this way, during unwinding, exposed surface from C to D is being continually unwound, leaving no yarn exposed long enough to become soiled.

The only change required for the alternate method is to change worm and rack from left hand thread to right hand thread, and locate a stop at left end of rack so that operator can't unscrew rack completely off worm when bringing rack back to start (see Fig. 1). By changing thread of worm and



Successful Slasher Operation...





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Automatic Controls

Actual installations in a typical southern cotton mill. Top illustration shows a group of Barber-Colman Electronic Moisture Content Controllers.

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Lower photograph illustrates Barber-Colman "Temchron" Electronic Size Cooking Controllers in combination with temperature recorders which keep permanent records of size cooking process.

Here is COMPLETE control for your slasher room. All-electronic "MCC" Moisture Content Controllers, "Temchron" Electronic Size Cooking Controllers — as well as other automatic units for size level, cylinder temperature, size box temperature, storage kettle temperature, room temperature, and relative humidity — are available to suit the exact needs of any mill. Successful mills are achieving new standards of quality and uniformity in their slasher room operations through the use of Barber-Colman control equipment. Problems that plagued the slasher hands have smoothed out, seconds have been reduced toward the vanishing point, loom beams going to the weave room have a new uniformity. Mills such as the one illustrated above have taken advantage of the benefits provided by Barber-Colman control equipment. Would you like to see what could be done for your slashing process? Our engineers, backed by 45 years experience in the textile field, are ready to make a survey for you at no obligation.

See your Barber-Colman representative for complete details or write for bulletins F-3156 and F-3054.

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rack rather than changing direction of pick wheel and various stops, operator can turn handle in same direction as originally in returning rack to start. It is advisable to have wood bushing B D placed on bobbin so that yarn, in unwinding, won't have to "climb a hill" and get snagged or broken, thereby causing production delay.

CONTRIBUTOR No. 8310

Discussion on Removing Trash from Cotton

EDITOR TEXTILE INDUSTRIES:

Many mills are having trouble with poor cotton. Our mill is not different from many others in that complaints have been received from our customers regarding trash in the yarn. Perhaps some of your readers are good carders who may have the answers to the problem. How can we remove more trash from the cotton with present machinery layout and processing methods?

Our opener room operates as follows: Using Strict Middling 1 1/32" eastern uncompressed cotton, we open two 21-bale mixes which are fed in thin layers from each bale into a line of five Saco-Lowell F-7 blending hoppers. The hoppers deliver the stock into a cleaning line which includes a Superior cleaner, regular Centrif-Air cleaner, two Saco-Lowell No. 12 lattice openers with No. 11 condensers in tandem. Another Saco-Lowell No. 11 condenser takes the stock and drops it into a Gyrator. The Gyrator feeds into two three-beater one-process Saco-Lowell pickers.

Production on the opener line is 850 pounds per hour, and machine speeds are as follows:

Superior cleaner	600 rpm
Centrif-Air	585 rpm
Lattice opener (both)	550 rpm
No. 11 condenser fans (both)	1200 rpm
No. 11 condenser over Gyrator	1200 rpm
Gyrator	150 rpm
Picker Speeds:	
Breaker fan	850 rpm
3-blade breaker beater (16").	950 rpm
Int. fan	1050 rpm
12" intermediate beater, 2-blade	1200 rpm
Finisher fan	1050 rpm
Finisher beater, Kirschner	1200 rpm

The time required to make a picker lap is seven minutes, and the laps weigh 14 ounces per yard.

We have 45" Whitin and Saco-Pettee cards, and card production is 10 pounds per hour.

Card settings and processing data:	
Grain sliver	55
Draft	102
Cylinder speed	165 rpm
Doffer speed	7 rpm
Licker-in speed	450 rpm
Settings:	
Doffer to cylinder	7
Flats to cylinder	10
Licker-in	7
Feed plate	12
Mote knives, top	22
Mote knives, bottom	17
Licker-in screen, blank part	22
Licker-in screen, middle	1/4"
Cylinder screen, licker-in end	29
Cylinder screen, doffer & doffer comb	3/8"
Back knife plate, top & bottom	29
Front knife plate to cylinder	29
Stripping plate	34

We have tried everything we know to get more trash out of the cotton, but there is too much trash left in it. We were using oil spray in the pickers; however we stopped this practice. Possibly the yarn improved slightly, but on the other hand the fly has increased at the cards since we stopped using the oil spray.

CONTRIBUTOR No. 8300

EDITOR TEXTILE INDUSTRIES:

After a thorough check of machinery and speeds as compared to what may be considered ideal for the type stock being run, I can find nothing basically wrong with the cleaning layout as outlined by CONTRIBUTOR No. 8300. There are a few points that should be investigated to assure the most effective cleaning action on the cotton.

Oil Spray. If an oil spray is used again, I would suggest that the system be moved from the picker beater back to the opener line and install a spray unit at each hopper. An oil spray unit at the picker beater does not permit even distribution of the oil on the cotton. The oil may clog grid bars and interfere with trash removal at this point. The uneven distribution of oil will cause large particles of trash to stick in parts of the cotton sheet and be cut up into pepper trash by the beaters or rollers. The farther back the oil spray is applied, the more evenly

Watch Your Step!

Mr. Superintendent and Overseer:

How many steps do you make daily? Where do you go and what do you do? Remember the Company you work for is paying you to make those steps, to think and to see, as well as to do.

When you leave your office to walk through the plant, what are you going there for? Are you going just to be going, to let people know you are on the job? What are you thinking about; where are you looking? Every step you take is valuable and should be taken in the right direction.

What do the people in the plant think of you when you walk through? Are they happy to see you and greet you with a smile, or do they shun you and say, "there comes old Sour Puss." Remember, fella, you are pretty close to being just what those people have sized you up to be.

After you have walked through the plant and returned to the office, then what? Is the Company any better off than it was before you went through, or had you just as well remained in the office? What did you accomplish on the walk through? How many employees did you talk to? Did you do or say something that would benefit either yourself, the employees or the Company? Were any suggestions made or anything done to improve quality, to boost morale?

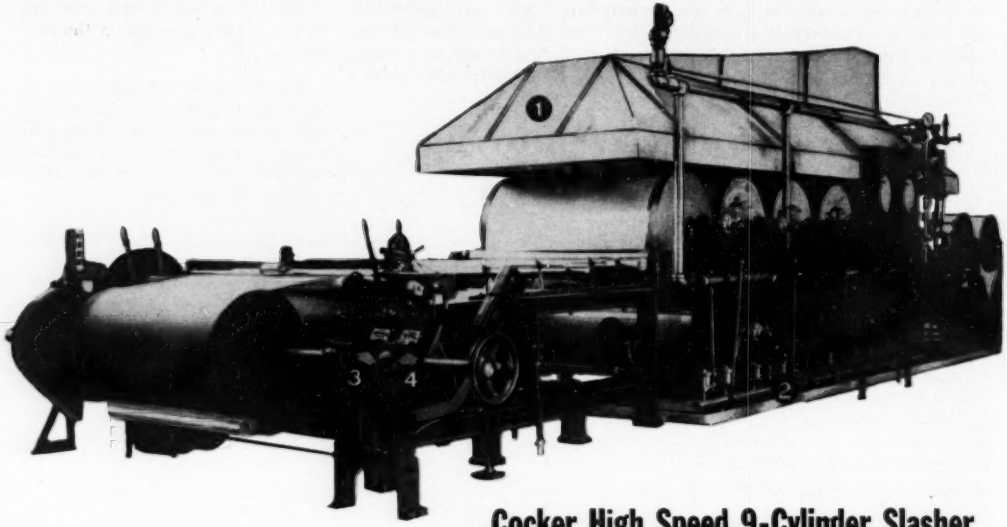
Maybe there was a comb box slinging oil, a hot bearing some place, a dry roller, a slack belt, a knock-off or roving traverse not working properly, a comber not piecing right, snick plates not set on the spooler, or there might have been one spinning frame standing for several days and you hadn't noticed it. There are literally hundreds of things you could have seen, but did you? If you did, what did you do about them?

Remember, brother, the Company is paying for each step you make. It has invested in your feet, eyes, brain, and ears, as well as your whole being. How much return is it netting on the investment? You should make each step count; plan steps before they are made and know in advance they are going to count. If the Company is no better off after you go through the plant than it was before, then you just as well not have gone.

Is the plant you work at making any better yarn or cloth now than it was when you took over; is the cost lower? HOW ABOUT IT?

CONTRIBUTOR No. 8430

A Complete Slasher Installation by Cocker

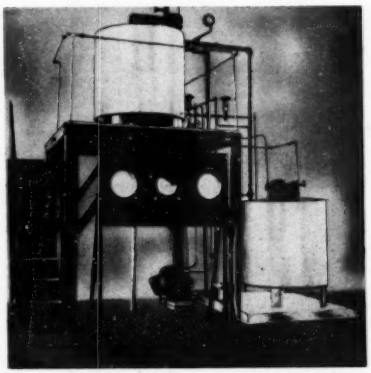


Cocker High Speed 9-Cylinder Slasher

For Cottons—Spuns—Filaments—and other yarns

1. Stainless Steel Hood . . . by Cocker
2. Stainless Steel Drip Pan . . . by Cocker
3. Accurate Electric Stretch Indicator
4. Accurate Electric Speed Indicator

We now have complete facilities for making complete size room installations . . . stainless steel cooking and storage kettles, stainless steel hoods, stainless steel drip pans . . . as well as modern high speed Cocker Slashers for cottons, spuns, filaments, and other yarns. Let us figure on the complete installation of everything in your slasher room.



Complete Cooking and Storage Cylinder installation . . . mounted on all-metal Cocker-built tables.

THE LEADER COCKER AROUND THE WORLD

Machine and Foundry Co., Gastonia, N. C.

WORLD'S LARGEST DESIGNERS AND BUILDERS OF COMPLETE WARP PREPARATORY EQUIPMENT

the oil will be distributed in the finished lap. Approximately .2% of oil, based on weight of cotton, will give best results in reducing the amount of fly at cards.

Opening. A few minor changes in the opener line may help to remove more trash.

Reduce speed of Centrif-Air machine approximately 20%, and increase the speed of lattice openers by about 10%. Centrif-Air machines tend to dog-ear cotton and curl it if run too fast. Tests on our opener lines have shown that a relatively low speed on Centrif-Air machines will give a good cleaning job and will not damage the staple. Grid bars, Buckley beaters, Superior cleaners, and Gyrator should be checked often to determine if they are being properly cleaned. A dirty grid bar or grate bar will not permit proper removal of droppings.

Pickers. Beater speeds seem to be high enough to properly remove trash, and fan speeds seem to be sufficient to remove dust and small trash. The condition and settings of grid bars should be checked thoroughly to determine if they are properly set to remove a maximum amount of trash and a minimum amount of good staple. A thorough waste test over a period of a week on all 3 shifts should be sufficient to determine if present settings are satisfactory.

Too much relative humidity reduces cleaning efficiency at the pickers. 55% should be satisfactory.

Cards. A closer setting of flats to cylinder would remove more trash, but with a 45" card it is not wise to use closer settings than those used by CONTRIBUTOR No. 8300. A few changes in settings may help to remove more trash at the cards.

Mote knives, top—change from 22 to 10

Mote knives, bottom—change from 17 to 7

Licker-in screen—change nose from 22 to 17

Change back plate from 29 top and bottom to 17 top and 22 bottom

Change front plate setting to cylinder from 29 to 22 at top and 17 at bottom.

Closer settings will help to remove more trash, but at the same time more good stock will be lost. A thorough test should be run before adopting any of the suggested changes.

The problems that carders face with recent crops of cotton include not only the poor overall quality of the crop but also the fact that different lots of cotton vary greatly in terms of trash content. It is almost impossible to adjust machinery one time and expect it to properly process several different lots of cotton.

CONTRIBUTOR No. 8306

◆

EDITOR TEXTILE INDUSTRIES:

The problem presented by CONTRIBUTOR No. 8300 is interesting, and it is hard to suggest any one thing which might give the desired results.

I have talked the problem over with our superintendent and we would like to make the following recommendations, some of which may be practical:

(1) Reduce production of opening line from 850 to 650 pounds per hour and adjust feeders so that they will be feeding at least 85% of the time which will attain maximum cleaning at this point.
(2) Reduce production of pickers to one lap in 8 minutes instead of a lap every 7 minutes.
(3) Cut the carding production to 8 instead of 10 pounds per hour.
(4) Strip cards every two hours.
(5) Grind cards until certain they are sharp and then grind a little longer very lightly.

CONTRIBUTOR No. 8300 may find one or more of the foregoing suggestions possible to carry out, and I am sure that any one of them should improve the condition of his stock to some extent.

CONTRIBUTOR No. 8401

◆

EDITOR TEXTILE INDUSTRIES:

We see no reason why CONTRIBUTOR No. 8300 should not be making a reasonably good yarn with the equipment and procedure he has. We would suggest two changes. The changes are:

1. Slow the finisher Kirschner beater down to approximately 900 rpm.

2. Slow the cards down as much as possible.

We do not believe it is possible to make quality yarns at ten pounds per hour carding production.

CONTRIBUTOR No. 8314

Apron Stops Bobbin Nicks at Spooling Operation

EDITOR TEXTILE INDUSTRIES:

Nicks in warp bobbins cause difficulty in winding, especially the yarn near the last several layers on the bobbin. Also, a nick or two on the toe of the bobbin will cause snags and yarn breaks during the entire time that the package is being run into another form at a spooler or other subsequent process.

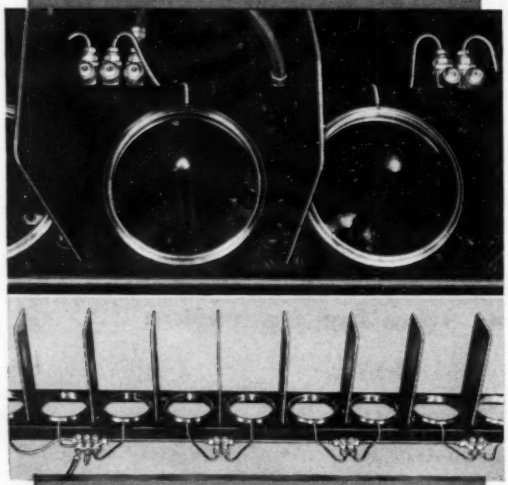
A large percentage of nicks is caused at the spooler where the empty bobbins are carried to the end of the machine on a conveyor belt and dropped into a wooden box.

A leather apron about sixteen inches square placed at the point where the bobbins hit the wood box after leaving the spooler conveyor belt, and having the apron located about two inches above the bottom of the box breaks the fall of the bobbins on the hard surface. Most of the nicks are thereby prevented. After hitting the leather apron, the bobbins roll off into the box.

CONTRIBUTOR No. 8405

Owens-Corning Fiberglas Corporation Saves $1,303.04 per Twister per Year by Installing *Lincoln* CENTRALIZED LUBRICATION SYSTEMS...

Lincoln Centralized Lubrication System, as installed on three 200-spindle Saco-Lowell 4" ring twisters by Owens-Corning Fiberglas Corp., Textile Products Division, Ashton, Rhode Island. The System provides automatic lubrication of the right lubricant, in the right quantity, to each of 228 bearings every 30 minutes.



In November 1950, the Ashton Plant of Owens-Corning Fiberglas Corporation, Textile Products Division, installed Lincoln Centralized Lubrication on three of their 200-spindle Saco-Lowell 4" ring twisters. After only a few months' operation, estimated annual savings are reported as follows:

1. Reduced Oil Consumption . . . . $ 78.00
2. Reduced Oiling Labor 467.00
3. Increased Traveler Life 212.00
4. Fixed Cost Reduction 564.04
5. Reduced Maintenance Costs (Negligible as yet)
6. Improved Efficiencies (No indication as yet)

Savings per year, per converted twister, $1,303.04

Mr. E. Bay, Chief Engineer, says:

"The estimate is based on a spindle speed increase of 8.5%. This is based on an average yarn count, however, we have our lightest yarn count, approximately 100 denier, operating at an increased spindle speed of 40% to determine the possibility of reaching the maximum speed which we can obtain from the twisters and still obtain a perfect quality yarn. We found this possible. The quality of the yarn is better than that produced at standard speeds and with manual ring oiling.

"With regard to the traveler life, it is five to one.

"We found the trial installation, after a short time, so successful that we are recommending and installing the Lincoln Centro-Matic Lubrication System on all our new twisters now on order, and our new anticipated plant will be completely equipped with this system."

Write for name of your nearby Lincoln distributor who will work with you and recommend the time and money saving Centro-Matic® Lubrication System best suited to your equipment.

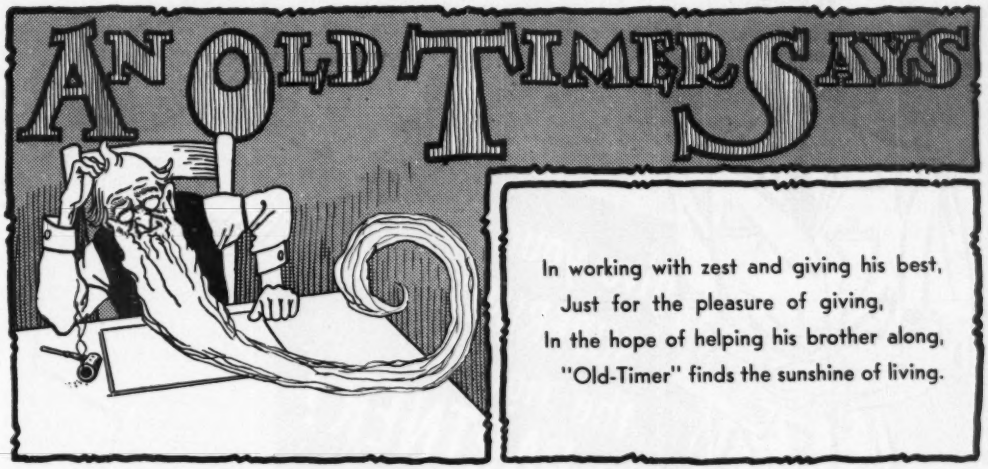
APPLY
the **RIGHT LUBRICANT,**
in the **RIGHT QUANTITY,**
at the **RIGHT TIME!**

• • • PIONEER BUILDERS
LINCOLN
LUBRICATING EQUIPMENT • • •

®Registered Tradename

Distributed Nationally Through Leading Industrial Wholesalers Located in Principal Cities

LINCOLN ENGINEERING COMPANY • 5702-15 Natural Bridge Ave., St. Louis 20, Mo.


AN OLD TIMER SAYS
In working with zest and giving his best,
Just for the pleasure of giving,
In the hope of helping his brother along,
"Old-Timer" finds the sunshine of living.

"Date Everything"

OLD-TIMER concludes his letter to "Jim," a progressive mill superintendent who was recently given the responsibility for purchasing all supplies at his mill. Then he begins a discussion of his "system for inspection" for superintendents and overseers.

DATE everything, Jim. It will result in valuable information. Don't ever sign or put your initials on an invoice or any other paper or report without putting the date right under your initials or signature.

If the office requires you to sign invoices when the goods are received, ALWAYS insert the date just under your signature, or beside it. Space permitting, we could relate to you several instances where OLD-TIMER profited by this procedure, and you too, will profit by it sooner or later.

Dating things is a very good habit to acquire. However, forty years ago some of OLD-TIMER'S friends joked about our habit of dating everything. For example, when $4.00 per day (no hours stated) was practically standard pay for most overseers on jobs from 40,000 to 50,000 spindles, we fellows had to watch our living expenses quite a lot closer than you overseers do today. As OLD-TIMER found his dating system worked so well in the mill, he thought it would work equally well in his personal expenses. Tnerefore, when he purchased a pair of shoes he put a date inside one of the shoes. Naturally he could tell you what brand of shoes lasted the longest.

System, Jim, will "pay off" in your personal affairs as well as in your mill business or any other kind of business, and it is so much satisfaction to be able to know more about your business, what ever it may be, than the other fellow knows about his.

Reeds

For example, do you date your reeds? No, of course not—reeds will last almost indefinitely if handled properly. Yes, we will agree to part of that statement. But how long is almost indefinitely? Oh Heck, you say, the reed bill is not a major cost in any mill. Again we agree you are right, but the fact remains that a small saving in several articles will total up to enough to make a showing in your supply bill. And when it is so easy to have a system which will give you the correct information about all supplies, why not go all of the way and make your system complete.

Oh, Yes! Another item about reeds which we have found gives some pretty good results is to always bend the bar back at the end of all reeds so that reed will always be drawn with the same side facing the shuttle. Of course, with tying-in and drawing-in machines this is not so important because the reed is so seldom redrawn. But here again, to bend the end bar back while dating the reed is so little trouble, we have continued

With a Hinnekens machine your superintendent will do a better job.

Constant research gives Hinnekens the lead in improved designing and engineering technique. A complete line of machinery for the textile and finishing industry is built by skilled craftsmen whose knowledge and experience gives them the "know-how" to transform blue prints into working miracles of precision.

Only finest quality materials are employed in the construction of each unit. Hinneken's insistence on the best guarantees real economy through fault-free operation and years of heavy-duty service.

If your finished fabrics are to attain and maintain a uniformly high quality, give your superintendent the right partner—A Hinnekens Machine.

CONSULT THE HINNEKENS SALES ENGINEER NEAREST YOU

The HINNEKENS machine co. inc.

199 GODWIN AVENUE, PATERSON, N. J.

NEW ENGLAND REPRESENTATIVE	Peter Jaswell & Son 37 Brentwood Ave. Providence 8, R. I.
SOUTHERN REPRESENTATIVE	T. E. Lucas Assoc. Inc. P. O. Box 1696 Charlotte 1, N. Carolina
MEXICO AND SOUTH AMERICA	Meyer, Lyra & Co. Inc. 227-229 Fulton St. New York, New York

the practice although we do have the tying-in and drawing-in machines. If a reed is ever redrawn, it should be drawn with the same side next to the shuttle. Just one of those little things, that's all. Less shuttle wear, you know.

Jim, if you will strictly adhere to the system we have outlined, you need have no apprehension about your supply account being lower than your boss was ever able to get it. Besides, you will be doing the work of purchasing supplies with about half the amount of time and energy he put into that work. You will not be guessing at anything—you will *know*. The fellow who comes along with a slick sales talk about his product—you can listen to him and smile, because you will have the records.

Yes, Jim, many overseers and superintendents laughed at us when they learned we were buying high priced leather belting stock to make harness and jack straps, instead of cheap slab leather, but when we were able to show them actual reports which showed a saving up to 40%, they changed their tune and wanted to know more about our system.

Fly Frame Bobbins

Of course it takes time, Jim, for some of these items to show the saving they will make. For example: when buying fly frame bobbins we always paid more for our bobbins than other mills did, but our bobbins were cheapest in the long run. Here's how: if, for example, we were buying 7 x 3½ bobbins—we specified that the bobbin manufacturer must use 8 x 4 blocks to make our 7 x 3½ bobbins. That gave us a bobbin with a larger base than the regular 7 x 3½ bobbin. And did you know that over 90%—yes, we said 90% —of all fly frame bobbins gave out at the base? No, we guess you do not know that. So just walk over to your bobbin bin and take a look.

The way we determined this was to place an extra box at all bobbin bins and instruct all employees to place defective or worn out bobbins in that spare box. No trouble at all—a few minutes to sort them, and there you have the story. Sure the larger blocks cost more, and the bobbin manufacturer complained that there was much more waste in cutting them down to size—Oh, well, why explain further?

And surely, Jim, you know better than to have four notches in the base of your fly frame bobbins. Every notch weakens the base, you know.

Gosh, Jim, we do wish space would permit an explanation of what we claim was the most negligent and impractical item of supplies which went into a textile plant. And that was filling quills. Many cotton mills are using today a filling quill with a barrel which was designed for the old sliding feeler. The midget feeler came out but the filling quill remained the same. Mills with no feelers bought the feeler quill; in case some day they might install feelers. Jim, in our honest opinion, there has

NON-FLUID OIL
TRADE MARK REGISTERED

Tops for Spinning

Looking for an oil that will positively stay in roll necks and off leather and cork cots? Follow the leaders and change to NON-FLUID OIL. 7 out of 10 mills today are using NON-FLUID OIL for top and bottom rolls and saddles. They get greater production of clean yarn at lower lubricant cost . . . for NON-FLUID OIL does not drip or spatter and lubricates constantly until entirely used up.

We are prepared to furnish mills with skilled engineering service. Write for Bulletin T13-TI and free testing sample of NON-FLUID OIL.

New York & New Jersey Lubricant Co.
292 Madison Ave., New York 17, N. Y.
Works: Newark, N. J.

Southern District Manager: Falls L. Thomason, Charlotte, N. C.
WAREHOUSES: Atlanta, Ga. — Birmingham, Ala. — Charlotte, N. C. — Chicago, Ill. — Columbus, Ga. — Detroit, Mich. — Greensboro, N. C. — Greenville, S. C. — Providence, R. I. — St. Louis, Mo.

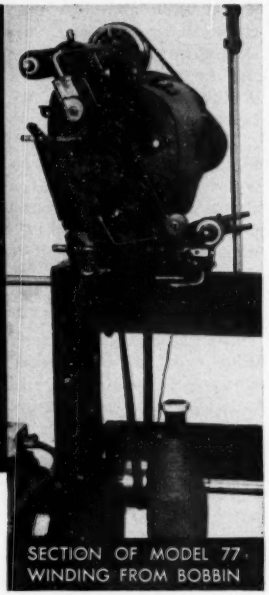
DON'T YOU BELIEVE IT! If anyone approaches you with products they swear to be exact imitations of NON-FLUID OIL, at a lower price, don't you believe it! The basic factors in all industrial production preclude paying a little and getting a lot . . . Remember, you only get what you pay for!

55th ANNIVERSARY NON-FLUID OIL

NON-FLUID OIL is not the name of a general class of lubricants, but is a specific product of our manufacture. So-called grease imitations of NON-FLUID OIL often prove dangerous and costly to use.

SECTION OF MODEL 40
WINDING FROM SKEIN

Carpet Mill will save about $17,000.00 per year with Foster heavy duty winders



SECTION OF MODEL 77
WINDING FROM BOBBIN

One leading carpet mill, which has recently installed Foster Model 40 and Model 77 Winders, estimates that it will save approximately $17,000.00 per year by this move. Here's why: —

1. **These Winders will give about twice as much production per hour as the old spoolers.**
2. **They also put twice as much yarn on a package, although the package is the same diameter as a spool.**
3. **They will cut doffing time at the winder in half.**
4. **They will cut yarn carrier costs to a mere fraction of what they were before, using inexpensive paper tubes in place of expensive and hard to get wooden spools. The paper tube packages fit in the same creel which is used for spools.**
5. **The greater supply of yarn on the Foster package means long runs and much less creel doffing at the loom.**
6. **The number of packages to handle is reduced by about 50%.**

SALE YARN MILLS — serving the carpet and other industries profit by installing Foster Heavy Duty Winders because their product is thus made more salable, offering important savings as described above.

Tell us your coarse yarn winding problem and let us make recommendations. No obligations.

Facts about MODELS 40 and 77

1. Model 40 handles 30/2 to 8/40 yarns; Model 77 from 8/3 to 8/100.
2. Model 40 package — up to 6½" traverse, Model 77 package — up to 8" traverse.
3. Both machines can be equipped to draw overend or by unrolling from bobbins or from skeins on runner reels.
4. Runner reels for skeins are light in weight, but give long life and are equipped with ball bearings.
5. Ball bearing spindles and drive shaft are standard on Model 77 and optional on Model 40.
6. Spindles driven by individual quarter turn belts, insuring constant spindle speed.
7. Arbors for various types of cones and tubes furnished for both machines.
8. Model 40 can be equipped to wind multiple end braider tubes.

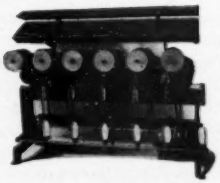
FOSTER MODEL 40

FOSTER MACHINE CO.

WESTFIELD, MASS.

Southern Office, Johnston Bldg., Charlotte, N. C.

Canadian Representative, Ross Whitehead and Company Limited, University Tower Bldg., 660 Ste. Catherine St. West, Montreal, Que.; *European Representative*, Muschamp Taylor Limited, Manchester, England.



FOSTER MODEL 77

never been an item of supplies which has cost cotton mills as much money nor made as much defective cloth (sloughed off filling) as this antiquated filling quill.

Remember, Jim, we required you to walk the weavers' alleys, the spinners' alleys, the card tenders' alleys, at regular intervals. That is a system all overseers and superintendents should adopt. Matters not how efficiently any overseer or superintendent is running his job, we believe—no, that is not the word—we *know* from long years of experience, that any man will run his job more efficiently if he will adopt the system.

Sincerely,

OLD-TIMER.

For readers who did not read the articles explaining this system to Jim when he was first made overseer, and again when he was promoted to superintendent, we will explain as briefly as practicable.

Any overseer of weaving can walk through every weaver's alley in a room of 2000 looms in one hour or less. We required Jim to do this every day, regardless of how busy he thought he might be with other duties, because we consider this the most important item of any overseer's or superintendent's duties.

Walk along the alley placing each hand on the cloth on each loom. This tells you first if the tension is correct. Next if the loom is set properly to make smooth (good hand) cloth. You see any double dent draws or single dent draws; you see if selvages are too wide or too narrow; you see if any ends are running over the harnesses.

Then we wrote out a list of specials; that is, items for Jim to look for while walking the alleys. For example, one day he would make a specialty of looking at temples. See if vibrating too much (which 90% of the temples in most mills are), set too high off race plate, etc. Next day he would be required to notice the lug straps as he walked along. If a strap was unusually low on picker stick he would make note of the loom number and ask loom fixer to look at these looms to find out *why* they had to have so much power (on picker stick).

Can't you see, Mr. Reader, what effect this small item has on all loom fixers? They know when they drop the lug strap down on the picker stick to make a loom run, that the overseer is going to see it sooner or later. Therefore, Mr. Loom Fixer is going to fix that loom properly, that is, so it will not take an abnormal amount of power to operate that particular loom. Result—less shuttle wear.

(*Continued next issue*)

"Dacron" from fiber to fabric

(*Continued from page 113*)

one 500-lb kettle, one 300-lb, one 100-lb, one 25-lb, one 10-lb, one 5-lb, and three single package machines for making samples. The small machines are useful for dyeing small quantities of colored yarns for decorative effects in some styles of fabrics.

The "Dacron" fabrics are finished on worsted type equipment because the fabric falls in the worsted category in price and appearance, and a worsted hand and appearance is to be produced. No problems of special significance are encountered in finishing.

Jarrett's META-CLEAN is made expressly for cleaning hosiery and other textile machinery and machine parts. It does the job simpler, faster, and better than any other cleaner known . . . penetrates and saponifies grease, oil, dirt, and lint almost instantly. Jarrett's META-CLEAN saves hours and hours of cleaning labor and machine down-time.

Jarrett's META-CLEAN has none of the disadvantages of other widely used cleaners. It is non-inflammable, gives off no eye-smarting and lung-irritating odors, and soothes skin and hands instead of irritating them. It can be sprayed, brushed or wiped on, or for immersion of small parts . . . and is effective even when diluted 20 to 1 with water. Write for a sample or a trial order.

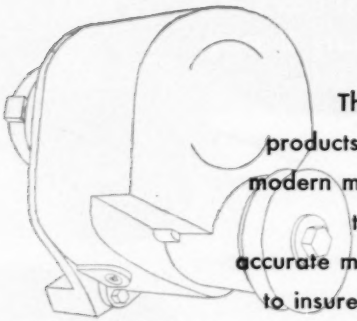
CHEMICALS
Caustic Soda
Hydrosulfite
Wetting Agents
Soda Ash and Acids
Textile Soaps
Phosphates
Oil Absorbent
Sodium Nitrite
Silicates
Detergents

SUPPLIES
Meta-Clean Spray Guns
Floor Cleaning Machines
Soaps—Cleaners
Disinfectants
Floor Seals
Floor Finishes
Insecticides
Paper Goods
Deodorants
Floor Wax

Satisfaction Given—Not Promised

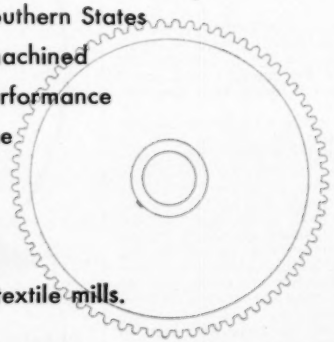
CECIL H. JARRETT COMPANY, INC.
Manufacturer and Distributor of Chemicals and Supplies, Newton, N. C.

Symbol of Quality...



The quality of Southern States products is the result of sound engineering, modern metallurgical and foundry practices to provide uniformity of specifications, accurate machining and rigid inspection to insure maximum operating efficiency.

The wide acceptance of Southern States Ball Bearing Comb Box, Southern States machine-molded cast tooth and precision-machined cut tooth Gears attests to the superior performance of Southern States textile parts. Your assurance of quality is guaranteed by an experience gained from more than thirty years of service to many of the South's leading textile mills.



Southern States Equipment Corp.

HAMPTON GEORGIA

Representatives - Mechanical Division

WILLIAM A. KNAPP
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MATHEWS EQUIPMENT CO.
Providence, R. I.

JOHN C. WALTERS
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C. H. KENNINGTON
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ROY SCHRIMSHIRE
Columbus, Ga.

TEXTILE PARTS & MACH. CO.
Gastonia, N. C.

F. C. TODD, INC.
Gastonia, N. C.

Largest Manufacturer of Cast-Tooth and Cut-Tooth Gears in the South

Varied Angle Ring Temple

(Continued from page 107)

in all details from one barrel to another.

Construction of the barrel allows for a straight line application of the burrs to the fabric. All rings penetrate the fabric at all times. The entire barrel is a solid locked unit, whether mounted on the temple or off. The entire unit may be disassembled while mounted on the temple stand proper since the barrel is assembled from the cap end.

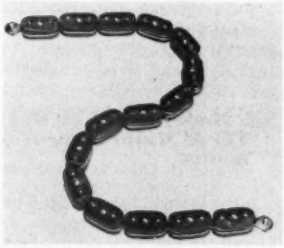
Unit is obtainable in all ring lengths, starting with a single ring to a maximum of 12 rings. All of these lengths will fit any temple stand presently in use, the manufacturer states. Other lengths with more than 12 rings can be manufactured for special applications.

Broell Mfg. Co., Windber, Pa.

For additional data, request item J-114, using business reply card on page 230.

Leather Link Construction Double Faced V-Belting

Leather link construction double faced V-belting has the high power transmission capacity of leather, and has outlasted and outperformed solid leather, laminated, and endless rubber V-belts on serpentine drives such as spool drum drives on tape con-



Leather link double faced V-belt (Graton & Knight).

densers, according to the belting manufacturer. Said to have great efficiency on small pulley, short center drives, it requires no dressing.

Each link consists of two fiber sections faced with oak tanned leather. Steel connectors insure great flexibility and eliminate stretch. Leather segments are V-faced to provide a double bevel which conforms to standard V-belt sheaves. The double V feature prolongs the useful life of the belt since on straight drives it can be turned over to become the equivalent of a new belt, the manufacturer claims.

Graton & Knight Co., 348 Franklin St., Worcester 4, Mass.

For additional data, request item J-201, using business reply card on page 230.

NEW Equipment AND MATERIALS

Other items are described on pages 105 and 107

Reduce Warp Damage with New Loom Beam Truck

Warps cannot be damaged or depressed by a new, all-steel, portable beam truck now on the market, the manufacturer claims, since no part of the truck touches the yarn. The beam is supported by the beam shaft.

There is only one moving part on the truck. The beam is put into the loom by gravity on a slight decline. The up-right frame part of the truck has a heavy cast iron adjustable bearing which can be locked in any position to take care of any loom beam with heads up to 30 inches in diameter.

The harness frame arms will accommodate up to 25 harness frames ½-inch thick. Roller bearing casters are fitted with thread guards, and it is said that they will not mar or smudge highly polished floors.

Standard Mill Supply Co., 1064 Main St., Pawtucket, R. I.

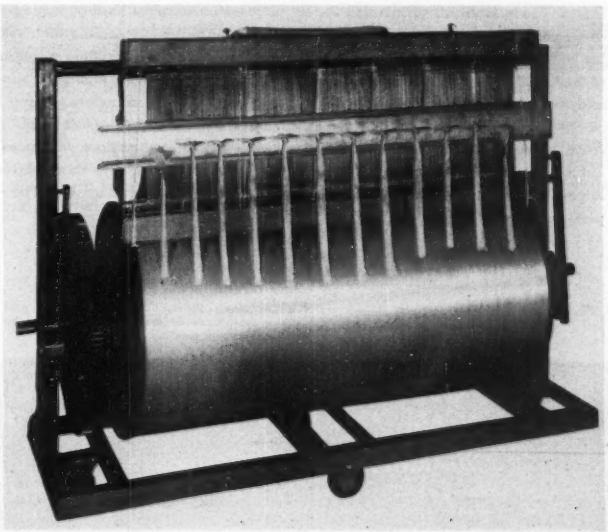
For additional data, request item J-109, using business reply card on page 230.

Special Fork Truck for Loading Motor Trucks and Freight Cars

Specifically designed for operation in and around highway motor trucks and freight cars, a new series of gasoline fork trucks combines low weight, low overall height, and high maneuverability for operation in close quarters.

Available in capacities up to 2,000 pounds, the "Trucker" is only 68" high when the telescopic lift is collapsed. In "duplex" models, the truck can elevate its forks 54" before the secondary channels rise to increase the height, allowing two-high stack-

All-steel portable beam truck (Standard Mill Supply).



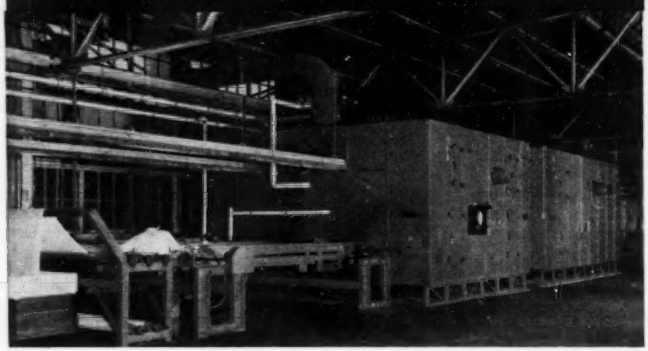
PROCTOR

NYLON SETTING EQUIPMENT

stabilization under 1%

assures uniform setting . . .

eliminates shading . . .



Nylon tricot fabrics that meet manufacturers' highest standards for dimensional stability and crease resistance are today being turned out in many mills throughout the country in modern Proctor nylon setting equipment. This equipment consists of two housings (enclosing a single wide tenter frame)—the first of which is a steam heat dryer for removing all moisture from the fabric. The second is a gas heated, high temperature machine providing temperatures in the 400 degree F. range and uniformity of air application to the fabric to provide uniform stabilization across the full width of the fabric. The internal air distribution system provides an absolute uniform impingement of air on both sides of the material and across the full width. By utilizing high velocity hot air, extremely efficient heat transfer is accomplished, thus permitting stabilization of the fabric under 1% residual shrinkage. This uniform heat setting eliminates shading of dyestuffs. The present standard range of equipment will accommodate either a 130" or 144" wide pin tenter. The same equipment may be designed for use with a 160" wide tenter frame. Proctor engineers are able to offer equipment for handling wide laces and net material on a 260" pin tenter frame. Where adequate tenter dryer is available—it is possible to purchase just the second or high temperature housing. Write for complete information.

For more information on Proctor equipment for the textile industry—see our catalog inserts in Textile World Catalogs and Davison's Textile Catalogs.

NOTICE: Much Proctor drying equipment and textile machinery is covered in full or in part by patents or patents pending.

PROCTOR & SCHWARTZ • INC •

610 TABOR ROAD • PHILADELPHIA 20 • PA •

Designers and Manufacturers of

Automatic Blending and Stock Conveying Equipment • Carding and Garnetting Machines • Dryers for Stock • Yarn • Piece Goods • Nylon Setting

NEW Equipment AND MATERIALS

The "trucker" by Yale & Towne.

ing inside street truck bodies. The unit also features short overall length.

All controls on the fork truck are of the automotive type. Clutch, accelerator, gearshift, and brake are in conventional positions while controls for hoisting, lowering, and tilting the forks are located in close proximity to the steering wheel.

The Yale & Towne Mfg Co., Philadelphia Div., 11,000 Roosevelt Blvd., Philadelphia 15, Pa.

For additional data, request item J-101, using business reply card on page 230.

S-L Model 6 Picker Has Three Major Improvements

Incorporated in the Model 6 picker now being manufactured by Saco-Lowell are Universal Adjustable Grid Bars (described on page 105 of this issue) for waste control, the Fringe Roll (page 175, TI for August, 1949) for greater control of good fiber, and Pneumatic Rack Control (page 184, TI for November, 1950) for control of lap evenness.

Also, fabricated steel plates are utilized in the manufacture of the chasis rather than cast-iron housings. The manufacturer states that not only is the steel lighter, stronger, and much easier to machine, but also the steel surface is much smoother with the result that there is less tendency for fibers to collect there and eventually pass forward with the

good stock and create lumps, destroying the texture of the lap.

Grate bars, or leaf bars, have been eliminated since it was found that they did not have sufficient cleaning value to warrant the trouble required to keep them clean, and because the waste removal which they did perform could be affected at the beater in a more efficient manner. It is said that consequently passage of stock through the picker is smoother due to the absence of air turbulence caused by the air stream passing over the grate bars.

Saco-Lowell Shops, 60 Batterymarch St., Boston, Mass.

For additional data, request item J-112, using business reply card on page 230.

Automatic Lay Up Machine For Tubular Knitted Fabrics

An additional model has been added to the line of lay up machines now available. According to the manufacturer, the new machine is similar to models previously offered except that it is automatic in operation. The machine is driven by an electric motor.

Utica Novelty & Mill Specialty Co., 2145 Dwyer Ave., Utica 2, N. Y. (J-501).

Report of 1951 Conference on Industrial Personnel

Complete reports and papers of the 1951 Conference on Industrial Personnel, sponsored by the Department of Industrial Engineering, Columbia University, have been published in a bound Columbia Industrial Report, "Frontiers of Personnel Administration." Copies may be ordered from the Department of Industrial Engineering, Columbia University, New York 27, N. Y. (price, $12.50).

Material in the book is arranged according to subject matter (for best continuity), and not necessarily in the order of occurrence on the conference floor, according to the announcement. Each article can be "lifted out" as a self-contained pamphlet.

Bearing with Nylon Liner

To overcome several limitations which restrict the suitability of plain injection-molded or machined nylon bearings for many applications, the "Nylined" bearing was developed.

A typical unit consists of an outer sleeve of inexpensive metal and a relatively thin lining of nylon bearing material. The liner is retained in the outer sleeve in a manner which

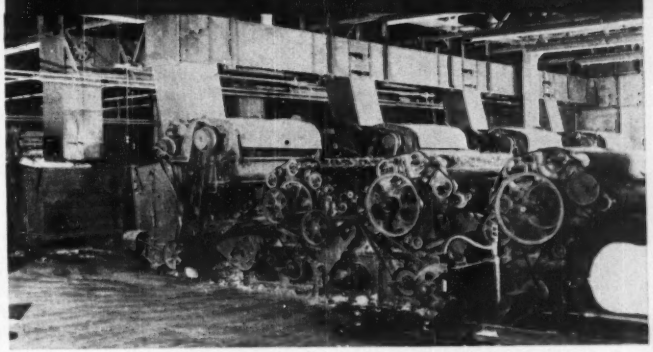
PROCTOR

METALLIC WORSTED CARDS

increase production up to 100%

improve card sliver

reduce card waste, resulting in greater yield



In mill after mill where Proctor metallic worsted cards have been installed the results reported are always the same. Tremendous increases in production are the rule rather than the exception. Most users report double the production on these smaller cards over that obtained on old, larger fillet clothed cards. Not only is production increased often as much as a 100%—but the quality of the card sliver is improved. Test after test shows great reduction in noils. Increased yield results from the elimination of stripping waste, which is one of the most important advantages of metallic clothed cards. Since the clothing is self-stripping, grinding is entirely eliminated, resulting in a substantial labor saving and preventing the cards from being out of production for several hours every few days. Another important consideration with these modern cards is the size—Proctor metallic cards are smaller than older types which means that much less space is required for the same output, in some cases as little as one-third of the space formerly used. Many of the best known mills in the industry are completely equipped with these cards—including Juilliard, Cleveland, Forstmann, Hird and National. The card room shown in the photo is one of the most modern in the industry with the card feed hoppers being kept supplied with stock by means of an automatic overhead conveying system. If you would like concrete production records on the performance of these cards—or would like us to project in black and white, what could be done with these cards in your mill—write today.

For more information on Proctor equipment for the textile industry—see our catalog inserts in Textile World Catalogs and Davison's Textile Catalogs.

NOTICE: Much Proctor drying equipment and textile machinery is covered in full or in part by patents or patents pending.

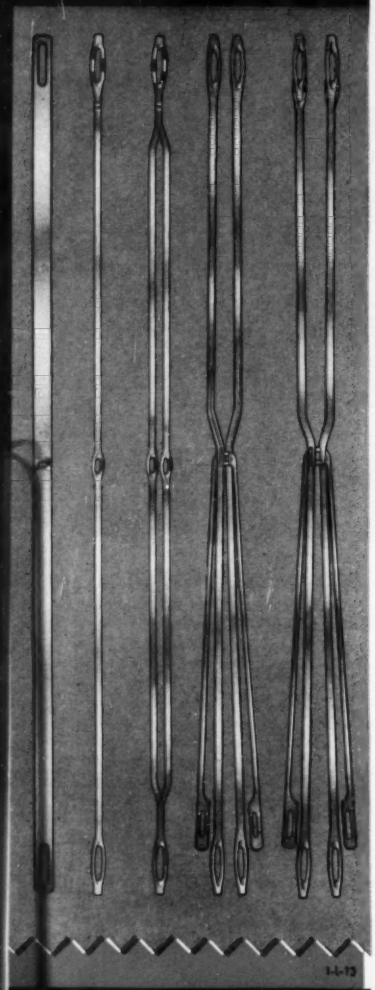
PROCTOR & SCHWARTZ • INC •

610 TABOR ROAD • PHILADELPHIA 20 • PA •

Designers and Manufacturers of

Automatic Blending and Stock Conveying Equipment • Carding and Garnetting Machines • Dryers for Stock • Yarn • Piece Goods • Nylon Setting

Slehedco and Southern



There is a specific type of heddle in all sizes and weights, for every type of fabric. Be sure to consult our Field Engineers for guidance in selecting the most practical eye for the special warp thread you are using. They are conversant with the mill problems and understand the importance of equipment and product performance . . . Just phone, write, or wire and they will be ready to serve you.

NEW Equipment AND MATERIALS

will permit it to expand and contract circumferentially around the inner periphery of the outer sleeve. The liner is provided with a narrow slot, or compensation gap, which interrupts the circumference.

In applications where lubricants can be used, one or more annular grooves are provided on the inside of the outer sleeve to form storage wells for grease or other lubricants which are evenly distributed through the compensation gap.

Advantages claimed: need for wide clearances to compensate for dimensional changes due to thermal expansion and moisture absorption is eliminated; no cold flow or creep problem; there is no danger of seizure due to stress deformation; load is uniformly distributed over the working surface, assuring greater load capacity and life.

Available in the plain sleeve type or the flange type. Can be furnished on a custom basis, designed expressly for each application, rapidly and economically.

Thomson Industries, Inc., Manhasset, N. Y. (J-301).

15-Inch Coiler Head for Card and Comber

A new coiler head, which has been given extensive mill tests, is designed for use with a 15" can. Not only is the can capacity doubled when this head is used, but the coiler head is so designed that it lays the sliver in the can in a series of overlapping 6" circles around the circumference, permitting a 3" hole down the center of the coil. The opening in the center prevents formation of the hard core common to the conventional coil, the manufacturer claims, eliminating a cause of much uneven sliver.

An offset design permits the coiler to be used with 15" cans without interference with the comb box on a card. It is equally adaptable to use with a comber. While the coiler head could be used on drawing frames, the front of the frames would have to be converted to allow staggering of the 15" cans to get the same number of deliveries.

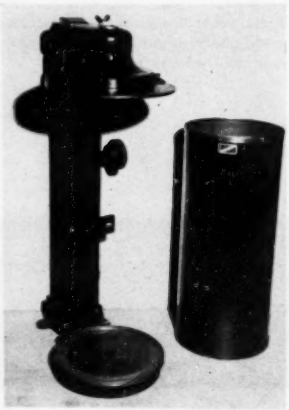
By a change of turntables, any size can from 14"-16" may be used.

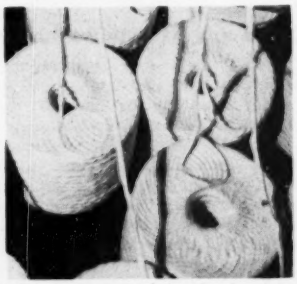
Petty Machine Company, Inc., Gastonia, N. C. (J-502).

Stainless Steel Tub-Type Truck

The inside of a new stainless steel tub-type truck is carefully finished and polished to resist corrosion. All the corners are rounded so as to be easy-to-clean. The top edges are reinforced with a triangular piece of formed metal to stiffen the sides and resist damage. The removable plug (optional) in one corner allows the contents to be easily drained.

The truck is furnished with any type and arrangement of swivel or rigid casters. The structure on which it is mounted may be of stainless or structural steel, galvanized or painted, and can be attached permanently or as a removable unit. The bearings are equipped with





Petty Machine Company's 15" coiler head for cards and combers is shown in photo at left. Below, method by which sliver is laid in cans when this coiler mechanism is used.

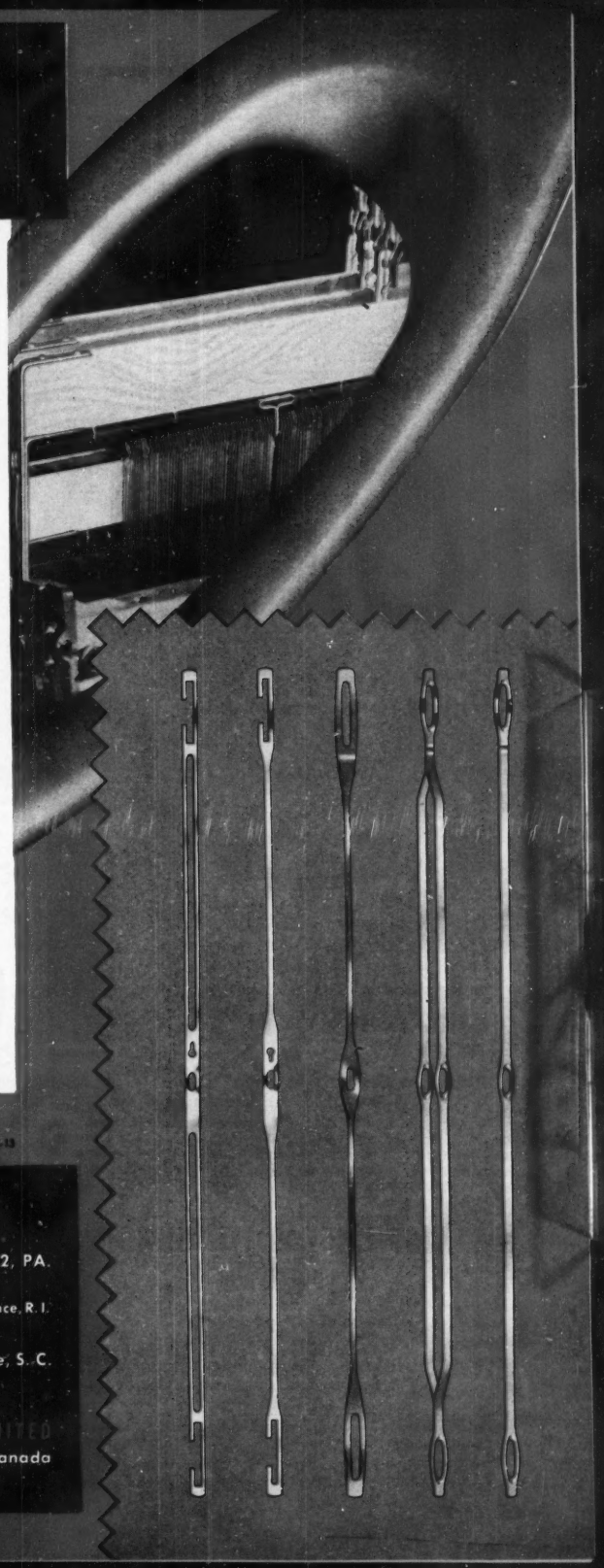
Stehedco and Southern

WHEN YOU LOOK A HEDDLE *IN THE EYE*...

you really see through the business of weaving superior fabrics, for it is the shape and polish of these all important eyes which will determine the quality of your finished product. It is at this point the Steel Heddle Mfg. Co., has concentrated its efforts in order to give you a heddle with an eye so scientifically designed all chafing and jagging is reduced to an absolute minimum.

The perfection attained in 52 years of manufacturing flat steel heddles is the result of constant experimentation on the part of STEHEDCO'S skilled craftsmen. It is this know-how and the high standard maintained in the selection of materials used that has given STEHEDCO its world-wide reputation for producing *superior quality Flat Steel Heddles*. STEHEDCO flat steel heddles not only possess these scientifically shaped eyes and highly polished finish, but also have rod slots so perfectly designed that they permit the heddles to "float" with the tension of the warp. *Stehedco Quality* means *Superior Quality* . . . that is why they are preferred by nine out of ten mills.

Products that "Weave the World's Needs"



LL-13

STEEL HEDDLE MFG. CO.
2100 W. ALLEGHENY AVENUE PHILADELPHIA 32, PA.

Other Offices and Plants
Greenville, S. C. • Atlanta, Ga. • Greensboro, N. C. • Providence, R. I.

SOUTHERN SHUTTLES Paris Plant. . . Greenville, S. C.
A Division of STEEL HEDDLE MFG. CO.

STEEL HEDDLE COMPANY OF CANADA, LIMITED
310 St. Hubert Street Granby, Quebec, Canada

PRECISIONED TO SIZE — PRECISIONED FOR CONCENTRICITY
— PRECISIONED FOR YOUR SPINDLES

PRECISION BOBBINS* with NEW LONG-LIFE FINISH

made to YOUR specifications

for SILKS and SYNTHETICS

*For SILK and SYNTHETICS — COTTON and SPUN RAYON — WOOLENS and WORSTEDS

NEW LONG-LIFE Finish on NEB PRECISION bobbins prevents yarn abrasion and snagging, resists pull and "crush" of nylon . . . smooth, polished, HARD, LONG-LIFE Finish means clearer weaving . . . no hairy or chafed filling with even the most delicate filaments . . . try NEBs with LONG-LIFE Finish on *your* looms — and compare!

NEW ENGLAND BOBBIN & SHUTTLE CO.

Makers of PRECISION Automatic Loom Bobbins

NASHUA, NEW HAMPSHIRE

Representatives:

HENRY H. HERSEY, Norwood Place, Greenville, S. C.

HARRIS MFG. COMPANY, 443 Stonewall St., S. W., P. O. Box 1982, Atlanta, Ga.

H. W. CURTIS, 735 W. Crescent Ave., Allendale, N. J.

THE CHARLOTTE SUPPLY CO., Charlotte, N. C.

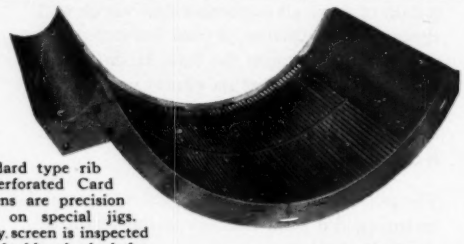
Export Agents
VANDERBURGH & CO., INC., 25 Beaver Street, New York 4, N. Y.

HARRIS & UNDERHILL, 446 Statler Building, Boston, Mass.

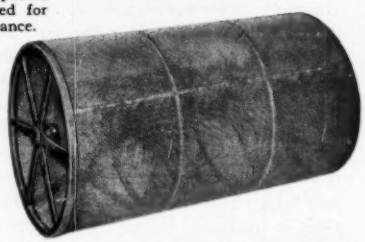
MORE PRODUCTION AT LOWER COSTS

with GASTONIA TEXTILE SHEET METAL PARTS

The quality and the profit of your end product starts at the beginning—where preparatory machinery must be geared for efficient, economical volume production. That's our job—a job for specialists with the reputation for top quality products, painstaking workmanship and reliable service.

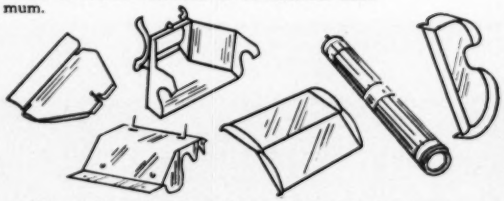


Standard type rib or perforated Card Screens are precision built on special jigs. Every screen is inspected and double checked for accuracy and tolerance.



Picker, Condenser and Waste Machine Screens of maximum strength and durability are constructed of the best materials available.

New and rebuilt Cylinders are dynamically balanced to reduce vibration to an absolute minimum.



Years of practical experience—the finest of raw materials—and precision machinery in the hands of skilled workmen go into every product.

GASTONIA TEXTILE SHEET METAL WORKS, INC.

GASTONIA, NORTH CAROLINA

A SHEET METAL WORKS SERVING TEXTILE MILLS

thoroughly tested seals which prevent the entrance of dirt and foreign matter as well as the escape of grease.

Specifications are: Capacity—1000 lbs.; length inside—60"; width inside —26½"; depth inside—16½". Wheels may be cushion rubber, hard rubber, aluminum, plastic or semi-steel.

Market Forge Co., Everett, Mass.

For additional data, request item J-107, using business reply card on page 230.

Leakproof 180-Degree Rotary Flexible Expansion Joint

Designed for use where an expansion joint with flexibility is required, a packless type 180° rotary joint now available has an all-metal seat or seal which is said to be leakproof. Flexibility is said to be accomplished by the rotating member carried in two inserts lapped together to insure a perfect seal. The combination allows the rotating member to flex in this unit while the unit expands, thus relieving the stress and strain on the piping. Can be used for water, oil, steam, chemicals, and gas. Sizes 1¼" to 12".

The Phillips Rotary Joint and Valve Co., Inc., 5711-13 Boulevard East, West New York, N. J. (J-309).

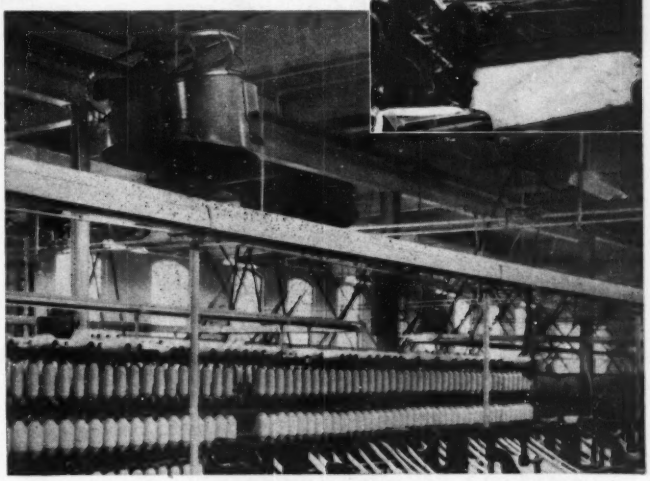
Cold Cleaning of Spinning Spindles

A new method for cleaning spindles utilizes a solvent type of cleaner originally developed for cleaning carbonized oil deposits from airplane engine parts and diesel engines. This cleaner, Magnus 751, works very effectively in cold solution and is completely harmless to metals and fibers, the manufacturer claims.

Mixed with water in the proportion of two parts Magnus 751 to one part water, a cleaning solution is obtained which, according to reports, will thoroughly clean spindles in one-half hour. This is on the basis of simply dropping the spindles into a tank containing this solution and leaving them there for 30 minutes.

If the volume to be cleaned exceeds the rate at which the cleaned spindles are re-used, they can be left in this solution for longer periods without damage, being re-

The Up-draft Cleaner



Originally designed to be used with the Parks-Cramer Frame Cleaner (mounted on spinning, winding, twisting, and other frames), the Up-draft Cleaner has lately gained its independence and gone into the preparatory areas alone. It has proved particularly effective in the card room. Virtually all hand cleaning of upper areas is eliminated by this automatic, mechanical cleaner.

Operating on our standard track, it goes about its business without getting in the way of belts, shafting, or air conditioning ductwork, either present or contemplated.

With its continuously revolving column of air, it effectively cleans lights, pipes, conduits, and ductwork.

The Up-draft Cleaner is another worth-while investment in better textile mill housekeeping.

And what a difference a clean room makes!

Parks-Cramer Company

Fitchburg, Mass. Charlotte, N. C.

PARKS Certified Climate

Eye-Catching Colors with *Evenate

Evenate adds sparkle to the popular new acetate bedspreads. Patterns are sharp, colors are brilliant because Evenate in the dyebath assures extremely level dyeing results, better dye penetration. Works equally well with acid colors and acetate dyes. Non-foaming.

In addition to use on luxurious acetate or nylon-acetate combinations, Evenate can also be used on underwear fabrics and carpet yarns. Try it on knit goods, woven nylon laces. Amalgamated Field Representatives are ready to help you obtain the best results with Evenate.

We offer a complete line of Fabric and Hosiery Finishes, Dyeing Assistants and Scouring Agents plus the services of Representatives who are trained technical men. Write or call for production information or samples today.

**Evenate is a thin paste readily soluble in the dyebath. It is a non-ionic condensate combined with a glyceride.*

Excellent penetration and level dyeing results are obtained on new synthetic carpet yarns with Evenate.

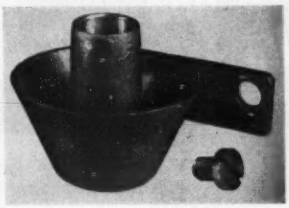
With Evenate, nylon-acetate combinations used in lingerie lace, achieve a perfect union of shade.

Hosiery dyehouses report increased production because of fewer redyes with Evenate.

AMALGAMATED CHEMICAL CORP., Phila. 34, Pa.
Southern Division: 1819 Spring Garden Street, Greensboro, N. C.

Amalgamated

NEW Equipment AND MATERIALS



Sinker Sleeve Oil Guard for S & W Komet Machines

This new Sinker Sleeve Oil Guard, made for Scott & Williams Komet Links and Links as well as long-drum Scott & Williams regular Komet machines, prevents oil from dropping onto the finished fabric of the stocking, the manufacturer claims. It is easily attached, or removed for cleaning, with one bolt and can catch the drippings from several months of operation.

Scott & Williams, Inc., 350 Fifth Ave., New York 1, N. Y.

For additional data, request item J-104, using business reply card on page 230.

moved as needed. A simple water rinse, or a rinse in safety solvent puts them into shape for use immediately after cleaning.

Where it is desired to clean spindles at a faster rate in this solution, one of the Magnus Aja-Dip cleaning machines should be used.

Magnus Chemical Co., Inc., Garwood, N. J.

For additional data, request item J-108, using business reply card on page 230.

Koroseal Electrical Tape

A new type of electrical tape, made with Koroseal material, is said by the manufacturer to have many advantages: adhesive is non-transferring and can be pressed onto a dry surface innumerable times without losing its stickiness; it will not transfer the adhesive from the face, lose its tackiness, or ability to adhere, sticks snugly and securely to itself and in-

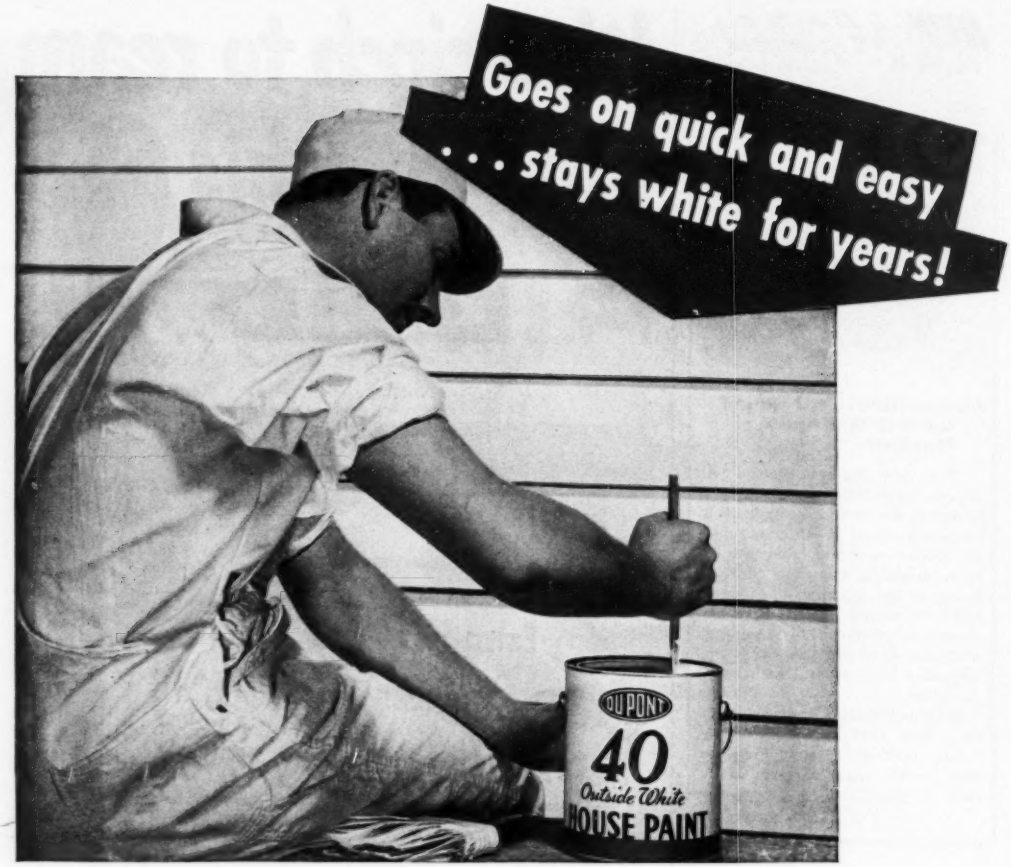
It's a cinch to ream pipe with this RIDGID

● RIDGID LonGrip reamers have that extra-long-taper that cleans the burr smoothly out of pipe or conduit almost without effort. Just a few light ratcheted strokes do the job. Furnished complete with ratchet handle. No. 2 Reamer unit sold separately for use in RIDGID 00R small ratchet die handle. Two sizes, No. 2, ⅛" to 2" pipe; No. 3, ⅜" to 3" pipe. These RIDGID new type pipe reamers really do save your time, work—and pipe. Ask for them at your Supply House.

Buy reamer complete or reamer unit separately for use with 00R die handle.

RIDGID

★ Work-Saver Pipe Tools ★



DU PONT HOUSE PAINT means a bigger return on your MILL-VILLAGE investment

Du Pont House Paint gives you what you want for your mill village, right from the start:

Fast, easy application, with brush or spray

Solid hiding, excellent coverage

Brilliant white... that *stays* white

It all adds up to lower costs per unit, both at painting time and after years of service. And, in addition, Du Pont House Paint weathers uniformly, presents a smooth surface at repaint time... saving you many dollars in preparation expense.

Plan now to repaint your mill-village homes with Du Pont House Paint, in famous "40" Outside White and stay-true colors. Write E. I. du Pont de Nemours & Co. (Inc.), Finishes Division, Dept. TI-15, Wilmington, Delaware.

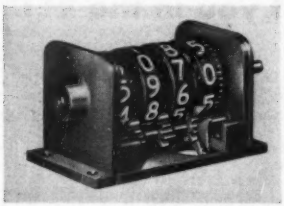
NEW Equipment AND MATERIALS

sulation around copper wire. Has dielectric strength of 8000 volts, is waterproof, highly abrasion resistant and flameproof, resistant to acids, oil, alkalis, and corrosive salts.

The B. F. Goodrich Co., Akron, Ohio. (J-306).

High-Speed Mechanical Counting Device

Higher speeds than ever before available in a mechanical counting device are claimed for a new Series 1370 counter incorporating Geneva transfer. It was designed and developed to meet requirements for higher speeds and for larger figures to provide easy readability. Rated at 1500 drive-shaft rpm which gives 15,000



Veeder-Root Series 1370 Counter.

counts per minute with a standard 10-digit unit wheel. Non-reset type, adding when drive shaft is rotating in one direction, and subtracting when turned in the opposite direction. Can be manufactured in any figure capacity, with special unit wheels to meet different requirements.

Veeder-Root Inc., Hartford 2, Conn. (J-307).

Films Tell How to Conduct Safety Meetings

"Speaking of Safety," a new series of six training films showing supervisors and foremen how to address and conduct meetings, has been announced by the National Safety Council, 425 North Michigan Ave., Chicago 11, Ill. Films are titled as follows: (1) "The Power of Speech"; (2) "Butterflies in Your Stomach"; (3) "The Key to Good Speaking"; (4) "On Your Feet"; (5) "Now You're Talking"; and (6) "Ring the Bell". Films are standard, 35-mm soundslide, with 16-inch records, 33 1/3 rpm.

Electro-Magnetic Drive Believed Adaptable to Textile Machinery

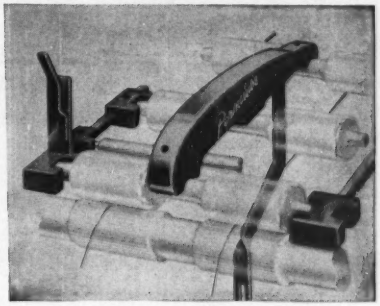
Dry graphite powder is employed to produce friction-without-wear in recently developed magnetic clutches and brakes which may have wide application in the textile industry on such processes as winding, spooling, and those demanding automatic control of tension.

There are two basic designs of the electro-magnetic devices, common to each of which is a magnet coil and complete magnetic circuit. One type maintains a fixed air gap between the rotating members into which iron and graphite particles are drawn magnetically when the current is applied. The other type has a variable air gap and is similar to a disc-plate clutch in which the iron and graphite particles are magnetically drawn between the plates as they are magnetically closed, thereby renewing the "friction linings" each time the current is applied.

The fixed air gap type of drive is

Better Service at Lower Cost

with WHITEHEAD *Permalube* OILLESS BEARING SADDLES and NEBS



Now your mill can use Whitehead Permalube Saddles and Nebs at a first cost that is usually less than for old-fashioned iron saddles and nebs. There never has been a comparison of second costs, for Whitehead Permalube Saddles and Nebs eliminate oil from rolls and yarn, reduce cleaning, won't score the rolls, can't cock or wander. You can install them and forget them.

Over 500,000 Spindles Now Equipped With These SELF-OILING Products

The new, improved Whitehead Saddles are being used in over 150 mills on more than half a million spindles. More and more mills are changing systematically to Whitehead Permalube assemblies exclusively.

Only Whitehead Permalube Products Offer These Money-Saving Features

- Years of trouble-free service
- No oiling of Permalube—Infrequent oiling of Oilite.
- No oil on yarn from top rolls
- Less lint accumulation
- Easier picking—less often
- Very low friction coefficient
- Aluminum bearing holders won't score rolls
- Pivot point permanently adjusted
- Saddle self-aligning. No tilting
- Bearings quickly replaced if ever necessary for only 3c to 5c each

NEW! BRONZE OILITE INSERTS IN PERMALUBE

Now furnished as standard in front saddle and nob bearings.

Solid Bronze Oilite front saddle bearing is also available for extra heavy loads and scored roll necks. (This requires a few drops of oil every few months.)

We have Saddles and Nebs for most all forms of drafting and invite you to

TRY THEM FREE!

Send us a right-hand and center neb and a saddle of the types you are now using and indicate the number you need for one side of your most troublesome frame. We will furnish a complete set of nebs and saddles for one side absolutely free of charge or obligation. But we warn you—once you've tried Whitehead Permalube Saddles and Nebs, you'll want them on all your frames.

Prompt Delivery from Ample Stocks

PATENTED AND MANUFACTURED BY
WHITEHEAD ENGINEERING CO.
522 WEST PEACHTREE STREET, N.W.
ATLANTA 3, GEORGIA

EXCLUSIVE DISTRIBUTORS
Meadows Manufacturing Co.
BOX 4354 • ATLANTA, GEORGIA

SEE YOUR MEADOWS MAN

SOUTH CAROLINA
J. P. Coleman, Box 1351, Greenville, S. C.
NORTH CAROLINA
Walter Coleman, Box 782, Salisbury, N. C.
NORTHERN REPRESENTATIVE
Matthews Equipment Co., 93A Broadway, Providence, R. I.
ALABAMA, GEORGIA, MISSISSIPPI
Sam Hogg, Box 4354, Atlanta, Ga.

Why UNBRAKO "STANDARDS"

"Standards" keep you in the BLACK

Standard design and purchase | Standard tools | Standard (fast) production with "standards" from stock | Standard (or higher) profits

"Specials" put you in the RED

Special design | Special drawings | Special purchase | Special (delayed) delivery | Special stock

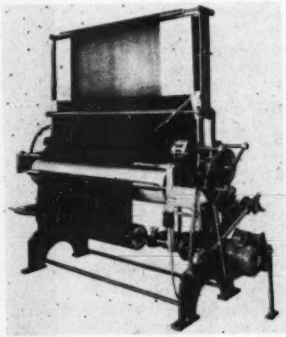
Special tools | Special production | Special bookkeeping | Special costs (higher) | Special profits (lower)

Knurled Socket Head Cap Screw | Flat Head Socket Cap Screw | Self-Locking Knurled Point Socket Set Screw | Knurled Socket Head Shoulder Screw | Fully-Formed Pressure Plug | Precision-Ground Dowel Pin

STANDARD recommends "Standards"

SPS

NEW Equipment AND MATERIALS



Constant Speed Cloth Examiner

Features claimed for this recently developed constant speed cloth examining machine include:

(1) Versatility—operator can inspect finished goods and light-screen grey goods without changing the machine set-up;

(2) Automatic piece stamping mechanism provides a more positive method of measuring goods;

(3) Easy to handle;

(4) Practically fool-proof.

Hinnekins Machine Co., Paterson, N. J.

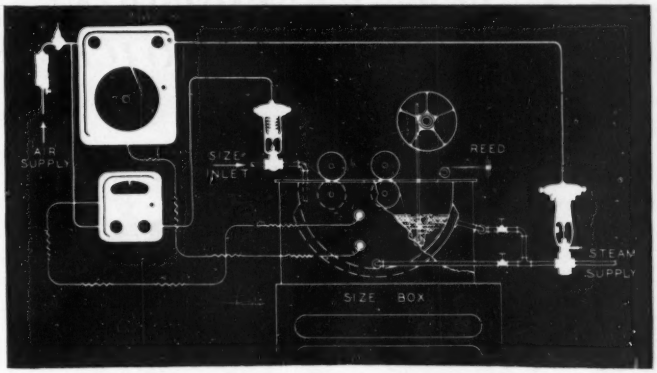
For additional data, request item J-103, using business reply card on page 230.

usually more desirable for constant slipping, modulating, or retarder applications, according to manufacturer, while the variable air gap type is recommended where smooth clutching or braking engagement and action are required with maximum capacity in minimum space.

Advantages reported for these drives are as follows: Insignificant wear, freedom from drag, no serious sealing problems, simple remote control, instantaneous response to control current, torsional vibration can be absorbed, modulation and accurately repeatable response in accordance with excitation, negligible amount of input control current compared with output power, automatic control of output speed or torque, straight-line torque characteristics

Masoneilan

Automatic Size Box Temperature Control Maintains Uniform Size, Insures Yarn Uniformity



If sizing standards are to be maintained and successively reproduced, the sizing agent must be kept at a constant temperature to avoid variations in viscosity and insure proper coverage of the yarn.

Masoneilan Size Box Temperature Control gives you accurate temperature control assuring uniform size resulting in fewer yarn rejects and "seconds".

MASONEILAN ADVANTAGES

- **Accurately Controlled Temperature**
  Maintains the size temperature automatically.
- **Cuts Production Cost**
  Reduces steam consumption to a minimum; insures uniform product.
- **Records for Uniform Production Runs**
  Chart record for reproducing similar runs and a permanent check on quality.

It will pay you to investigate Masoneilan Controls for your mill. Write for catalog.

MASONEILAN

MASON-NEILAN REGULATOR CO.

1194 ADAMS STREET, BOSTON 24, MASS., U.S.A.

Sales Offices or Distributors in the Following Cities: New York • Syracuse • Chicago St. Louis • Tulsa • Philadelphia • Houston • Pittsburgh • Atlanta • Cleveland Cincinnati • Detroit • San Francisco • Salt Lake City • El Paso • Boise Albuquerque • Charlotte • Los Angeles • Denver • Appleton Corpus Christi • New Orleans Mason-Neilan Regulator Co., Ltd., Montreal and Toronto

Complete
FACTORING
SERVICE

FACTORING DIVISION

TRUST COMPANY OF GEORGIA

ATLANTA

Next door to every
MILL in the SOUTH

Member: Federal Deposit Insurance Corporation

obtained without chatter, constant or variable speed and torque output from constant or variable input speed.

Eaton Manufacturing Co., General Research Division, 4160 Mayfield Road, South Euclid 21, Ohio.

For additional data, request item J-503, using business reply card on page 230.

Manual on Employee Feeding

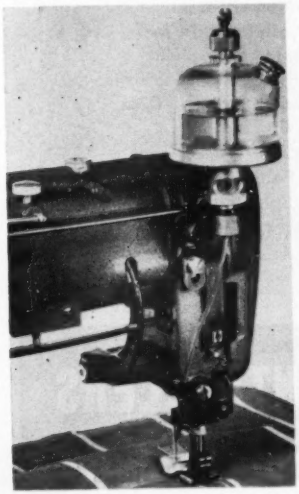
A recently published 92-page manual covers policies and procedures for setting up and operating an efficient employee feeding facility. It is designed for industrial plants, etc., undertaking employee feeding for the first time, or those desiring to check their current operations for improvements and economies. Published by Edmund S. Whitten, Inc., 216 Tremont St., Boston 16, Mass

Needle Cooler Facilitates Use of Orlon Thread on Heavy Duty Machines

With the development of a needle cooling device by Union Special Machine Co. and Singer Sewing Machine Co., tent and awning makers can now sew with thread of "Orlon" at commercial speeds, according to a recent announcement.

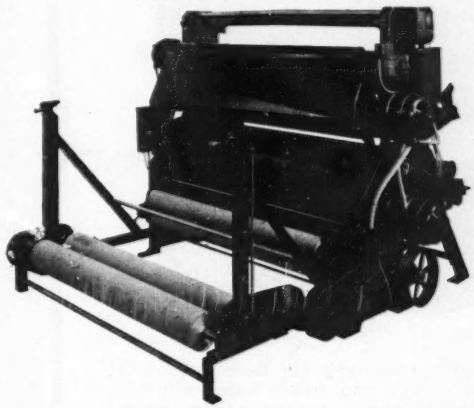
Using liquid to dissipate the heat

Needle cooling device for use with "Orlon" thread.



180 MILLION YARDS of Rayon Fabrics

SHEARED ON ONE HERMAS A. V. SHEAR...



In an important fine goods mill a Hermas AV Shear has been in continuous three-shift operation for eight years. This is equivalent to twenty-four years of one-shift operation.

The average weekly production of this mill is 450,000 yards, making a total of 180 million yards in eight years of fifty weeks each.

Here's economy of labor on a grand scale.

What is more, during all those eight years of three-shift operation the shear had not been stopped *once* for the replacement of any major part. That's trouble-free operation!

Why not have this shear to conserve labor and assure production schedules in your mill also?

HERMAS MACHINE CO.

America's Only Exclusive Specialists in Clothroom Operation

HAWTHORNE, NEW JERSEY

REPRESENTATIVES:

Carolina Specialty Company
Charlotte, N. C.

Robert R. Simpson
95 Sheldon Street
Wyckoff, N. J.

EXPORT DIVISION*
Francis H. Love & Son
57 William St., New York, N. Y.

Ross Whitehead & Co., Ltd.
Toronto and Montreal, Canada

Unisel, Ltd.
Manchester, England

(Correspondence in foreign languages invited)

TOP NAMES IN TEXTILES NOW USE CYCLELOG CONTROLLERS

When leading companies like those listed at the right adopt a new and unique instrument, there must be a good reason. Yet this is only a partial list of today's CycleLog* users!

Whether you're dyeing wool, cotton, rayon, nylon or other synthetics, or blends, in the form of piece goods, skeins, tops, packages, raw stock, hosiery, or slubs, the CycleLog gives you the most completely automatic control ever developed.

You can control from a distant dye house office†, or at the kettle. No matter what your dyeing temperature schedule may be, it is easily and precisely set up, in a matter of seconds, by turning the knobs on the face of the instrument. *No cams!* And pushing a button starts, or repeats, any cycle.

Write for detailed Bulletin 438, and let us make recommendations for your particular problem. **The Foxboro Company, 4810 Neponset Ave., Foxboro, Mass., U. S. A.**

* TRADE MARK

†*A new electronic CycleLog is designed specifically for this use.*

Bachmann Uxbridge Worsted Corp. (Uxbridge Worsted Co.)
Barre Wool Combing Co., Ltd.
Bishopville Finishing Company (A Division of Reeves Bros., Inc.)
Bradford Dyeing Assn. (U.S.A.)
Chatham Manufacturing Co.
Clearwater Finishing Co. (United Merchants and Manufacturers, Inc.)
Crown Manufacturing Co.
Cyril Johnson Woolen Co.
Dan River Mills, Incorporated
Davenport Hosiery Mills, Inc.
Delta Finishing Co.
Dorlexa Dyeing & Finishing Co.
Erie Dyeing & Processing Co.
Excelsior Finishing Plant (Deering Milliken)
F. C. Huyck & Sons (Kenwood Blankets)
Fieldcrest Mills
Globe Dye Works
Goodall-Sanford, Inc.
Hans C. Bick Co., Inc.
Hayward-Schuster Woolen Mills, Inc.
Holly-Knit, Inc. (American Yarn & Processing Co.)
Jantzen Knitting Mills
Julius Forstmann & Co., Inc.
Kendall Mills Division of The Kendall Co.
Lippitt Worsted Mills, Inc.
M. T. Stevens & Sons Co. (J P. Stevens & Co., Inc.)
Newnan Cotton Mills
Pearce Manufacturing Co.
Peerless Woolen Mills
Pohatcong Hosiery Mills, Inc.
Portland Woolen Mills
St. Marys Woolen Manufacturing Co.
Standard-Coosa-Thatcher Company
S. Stroock & Co., Inc.
United Piece Dye Works
Woonsocket Falls Mill
Woonsocket Spinning Co., Inc.
Wyandotte Worsted Co.

FOXBORO REG. U. S. PAT. OFF. **CYCLELOG CONTROLLERS**

FACTORIES IN THE UNITED STATES, CANADA AND ENGLAND

developed by the friction of the needles' passage through the heavy fabrics, the device includes a reservoir for the special rust inhibited coolant that feeds by gravity through a capillary tube to a small felt pad through which the needle passes before piercing the fabric.

Prior to the development of this device thread breaks occurred frequently, the announcement stated, because the needles became hot enough to melt the "Orlon."

E. I. du Pont de Nemours & Co., Inc., Wilmington 98, Del.

For additional data, request item J-106, using business reply card on page 230.

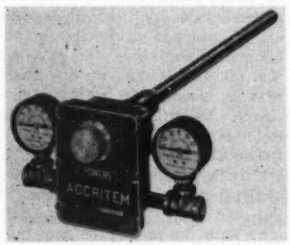
Product Name Change

Amalgamated Chemical Corp. has announced a change in name of the dyeing assistant recently developed for dyeing polyester fiber such as "Dacron" (for details, see page 169, TI for August, 1951).

To avoid conflict with a similarly named product manufactured by others, Amalgamated's "Amidye" is now designated "Dynadye."

Temperature Regulator for Liquids or Air

Ruggedness and dependability are outstanding features cited for an expansion stem type temperature regulator now available. It may be used to maintain liquids or air at any



"Accritem" temperature regulator (Powers).

temperature desired by controlling pneumatic or water operated diaphragm type valves or dampers.

Applications for the "Accritem" temperature regulators include: In-

Whatever your wet-processing need—
DYE—BLEACH—
FINISH—
NATURAL or
SYNTHETIC
FIBERS—FABRICS—
you'll meet it
more efficiently with
Laurel
textile specialties

. . more economically and more profitably, too. Since 1909, market-wise textile mills have found Laurel laboratory- and mill-tested processing specialties give speedier production, better finish — more salable fabrics. We invite you to see for yourself how these dependable Laurel products make your processing dollars go farther. Let us arrange a practical demonstration in your plant. Write or call us today.

PROCESSING HEADLINERS
Laurel Hydrosol
Laurel Synthetic Detergents
Laurel Hydrocop & 3B Softener
Laurel Anti-Foam AF
Laurel Anti-Static Compound
Laurel Hosiery Finishes
Laurel Resin Finish P50

textile soaps, oils, finishes
Laurel
SOAP MANUFACTURING CO., Inc.
Wm. H. Bertolet's Sons
ESTABLISHED 1909

2603 E. Tioga Street
Philadelphia 34, Pa.
Warehouses
Paterson, N. J.
Chattanooga, Tenn.
Charlotte, N. C.

Depend on-

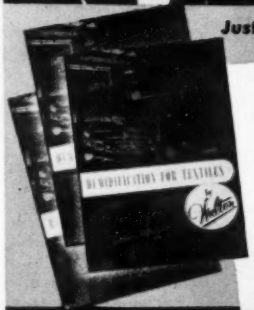
MODERN HUMIDIFICATION

by Walton —for every need!

SIMPLIFIED TROUBLE-FREE SYSTEMS FOR spot, booster or complete humidification

The modern Walton System provides dependable and accurate controlled humidity conditions which can be installed at minimum cost. Expensive duct work, air lines and compressors are eliminated as the Walton System needs only simple water and electrical connections. Uniform controlled distribution can be maintained in rooms with high or low ceilings. Filter protected models externally remove lint and dust, assuring efficient operation under normally adverse conditions. Check on the Walton System, now. Full engineering data is available without obligation.

Just Off the Press—New Textile Catalogs!



WALTON LABORATORIES, INC. 22
Irvington 11, New Jersey

Please send copies of the following:

☐ "HUMIDIFICATION FOR TEXTILES"
☐ "HUMIDIFICATION FOR KNITTING"

NAME _____

COMPANY _____ TITLE _____

STREET _____

CITY _____ STATE _____

SPECIALISTS IN INDUSTRIAL, COMMERCIAL AND RESIDENTIAL CONTROLLED HUMIDIFICATION

NEW Equipment AND MATERIALS

stantaneous water heaters, heat exchangers, jacket water for air compressors, vats, dryers, dyeing and bleaching machines, dry bulb and dew point control, etc.

Calibrated dial temperature adjustment is provided. Ranges: 50 to 250 F and 150 to 350 F. Easy to install at point where temperature is to be controlled. Requires compressed air or water at 15 psi pressure.

The Powers Regulator Co., 3501 Oakton St., Skokie, Ill.

For additional data, request item J-110, using business reply card on page 230.

New Books

A new edition of "Textile Design" by Antony Hunt was recently published (Thomas Y. Crowell Co., 432 Fourth Ave., New York 16, N. Y.; price $4.50). Dealing largely with furnishing fabrics, the 96-page book includes an entirely new text and many illustrations of contemporary design. The author, who is editor of "House and Garden," has expressed the hope that it will provide established artists with some of the more inaccessible knowledge of markets and manufacture, and that to student designers it may act as a guide and as an incentive.

For the oil user who wants to know about fuel oil selection, properties, handling, burning, troubles and remedies, together with working data for building heating, power generation, and industrial processes, the "Fuel Oil Manual" was published (The Industrial Press, 148 Lafayette St., New York 13, N. Y.; price $3.50). Written by Paul F. Schmidt, chief chemist of Allied Oil Co., Inc., the 160-page manual is intended primarily for those laymen or engineers who buy or use fuel oil, rather than for the chemist who is engaged in refining or research. Use of technical terms is held to the minimum.

The Chemical Publishing Co., Inc., 212 Fifth Ave., New York 10, N. Y., has just published a new book "Oil, Fat, and Soap," by B. Levitt. Beginning with the history of soap manufacture, the author discusses all phases of the industry, such as vegetable oils, animal and vegetable fats, soap, shampoo and detergent formulations and the saponification process, specialty soaps and processes, fatty acids and glycerin, synthetic surface active agents, miscellaneous tests, etc. 231 pages; price, $6.00.

A new ASTM Manual on Quality Control of Materials, sponsored by Committee E-11 on Quality Control of Materials, has been issued and takes the place of the ASTM Manual on Presentation of Data. Organized in three parts: (1) Presentation of Data; (2) Limits of Uncertainty of an Observed Average; and (3) Control Chart Method of Analysis and Methods for Presentation of Data. Available from American Society for Testing Materials, 1916 Race St., Philadelphia 3, Pa. ($1.75 per copy, heavy paper cover).

A new 1951 edition of "The Practice of Lubrication" by T. C. Thomsen has been published by the McGraw-Hill Book Co., 327 West 41st St., New York 18, N. Y. New achievements involving the distillation and refining of lubricating oils, the manufacture of inhibitives, or additives, to improve the performance of a variety of lubricants, solvent refining processes, synthetic oil production and application, and use of rubber, press metal, and fiber bearings, are typical of the highlights of this fourth edition (price, $8.00).

Foamed-Latex Now Available Integrated with Woven Glass Fiber

Thin gauges of foamed-latex now can be integrated with various types of woven Fiberglas, according to Andrews-Alderfer Processing Co., Inc., of Akron, Ohio. Glass fabrics are actually embedded in layers of foamed-latex by means of a recently developed process.

The high tensile strength, flame resistance, and beauty of Fiberglas cloths are combined with the stabilizing effect and cushioning action of foam to permit many new applications, it is claimed. Many uses are under active consideration in the aviation and general industrial fields. Potential consumer product applications include table tops and cushion pads for use under tablecloths. For theaters and other public gathering places in which fire-retardant furnishings are required, fire break curtains and decorations can be produced from combina-

Control Costs with TOLEDO

On your scale material becomes money!

50th ANNIVERSARY 1901-1951

PRINTWEIGH STOPS ERRORS . . . Provides printed weight records—at the instant of weighing—assuring that the accurate indication of the Toledo dial will reach your accounting records without chance of human error.

Modern Toledos meet your needs today for *rapid, accurate* scales in all phases of production . . . to help you *control costs!*

These are the scales backed by Toledo's half-century of experience in Research and Engineering that has produced 80% of the major advances in scales during this time.

Toledo engineering has not only specialized in the direct design of weighing machine mechanisms, but also in the many associated fields such as electronics, plastics, metallurgy, optics.

Check your needs *now*—select Toledo equipment for vital jobs in guarding materials and costs! Sales and service in 200 cities. Toledo Scale Company, Toledo 1, Ohio. We will be very glad to send catalogs.

NEW!
FLOOR SCALES
New recessed frame design fully guards against foreign material lodging beneath platform edge—choice of full or semi frame, with economical conversion for future needs. Double parallel link platform suspension means long life, accurate dependability. Send for bulletin 2406C.

TOLEDO

HEADQUARTERS FOR SCALES

You CAN improve on a 95!

In skeet shooting, it takes an expert to break 95 out of 100 "clay pigeons"... but *champions* do better than *that*. They score 96, 97, 98, sometimes all 100, because they've given special, determined attention to the fine points of the sport.

In textile production, too, even *good* efficiency can be improved. For instance, it's entirely possible that a certain starch . . . perhaps even tailor-made to your own specifications... could contribute to an efficiency gain.

Why not call your Anheuser-Busch representative? He'll be glad to come and talk it over.

CORN STARCHES
DEXTRINES
GUMS
CORN SYRUPS

Phone or write

ANHEUSER-BUSCH, INC.

CORN PRODUCTS DEPARTMENT

ST. LOUIS

ST. LOUIS, MO. 721 PESTALOZZI
CHARLOTTE, N. C. 607 JOHNSTON BLDG.
NEW YORK, N. Y. 33rd & 12th AVE.

tions of Fiberglas and neoprene rubber, which will not support combustion.

Any desired color of foam in gauges from 1/16 to ¼-inch can be integrated with any type of Fiberglas cloth. The combination materials can be furnished in widths from 45 to 60 inches on continuous rolls up to 75 yards in length, and they can be die or deck-cut, sewed, tacked or cemented to form end products.

Fiber E in Limited Commercial Production

Fiber E is now in limited commercial production at the Old Hickory, Tenn., plant of E. I. du Pont de Nemours & Company.

Said to have the property of curling or crinkling into a fuzzy, wool-like fiber when treated with a dilute solution of caustic soda, this new version of rayon, when combined with yarns of other fibers, imparts a carved effect to cut, brushed, and loop-pile fabrics, and will produce a two-tone color effect from a single dye bath.

Fiber E is, according to the manufacturer, regenerated cellulose. To the eye, a wound package of conventional viscose process yarn and a wound package of Fiber E are indistinguishable. Chemically, they are also similar. But the physical properties of the new fiber set it apart from any other textile product, it is claimed.

There is no crimp in the yarn as shipped by Du Pont, but the property to take a crimp has been built into the yarn through special spinning techniques and a special combination of chemicals in the bath which coagulates the viscose solution into a fiber.

The yarn is crimped in the customer's mill by a brief soaking in a dilute solution of caustic soda, which changes it from a straight, smooth yarn into a curly one. It can be treated either as yarn before processing or after being knitted or woven

into fabric. When the caustic is removed, simply by washing, the fabric is ready for the routine steps of dyeing and finishing.

Among the present uses for Fiber E are throw rugs, upholstery, draperies, cuddle toys, fur-like fabrics, and for nubby surface effects.

Weave Room Seconds Can Be Reduced

(*Continued from page* 122)

may well cover the following ground:

(1) Special training of inferior weavers through coordination of personnel and weaving departments.

(2) Shifting incapable workers to other positions.

(3) Initiate project for overhaul of mechanically inefficient looms by machine shop and fixers.

(4) Transferring sub-standard loom fixers to sections requiring less responsibility.

(5) Adoption of strict inspection policies governing weaving and finishing departments.

(6) Revision of specifications by technical department.

(7) Collaboration between fixers and technical department for devising improved machine parts and motions.

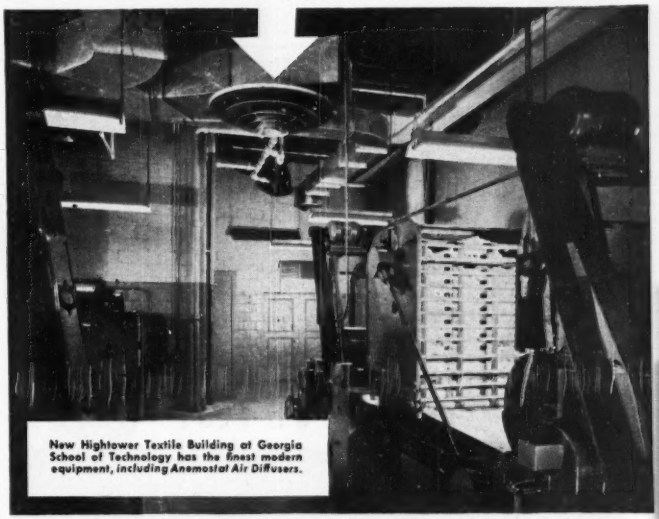
Management must guard against criticism of the committee if spectacular results are not immediately forthcoming. Not only must the committee overcome stumbling blocks set up by factional groups within the mill, but it must also combat non-cooperation on a supervisory level. The committee must be given complete authority and full backing in order to carry out the program.

The introduction of new concepts in controls and supervision may alienate some of the more firmly entrenched older foremen and operatives. There will be some opposition no matter what measures are taken. However, changes must be made firmly—even if some toes have to be stepped on.

for better fiber control...

ANEMOSTAT AIR DIFFUSERS

One of the most important factors in the quality control of fibers is putting the *right* quantity of properly conditioned air *exactly* where you need it.



New Hightower Textile Building at Georgia School of Technology has the finest modern equipment, *including Anemostat Air Diffusers.*

Scientifically designed Anemostat Air Diffusers accomplish this by distributing any volume of cooled or heated air in predetermined patterns . . . *without drafts.* Anemostats equalize temperature within the occupancy zone to plus or minus one degree and equalize relative humidity as well.

You can also use Anemostat Air Diffusers for spot cooling to neutralize machine heat loads. They are adaptable, too, to zone control of special areas. Anemostat's wide range of designs—including adjustable diffusers—assure flexible and perfectly balanced installations.

SPECIAL BULLETIN 32 tells the full story on the application of **ANEMOSTAT AIR DIFFUSERS** to textile manufacturing and processing. Write for your copy.

ANEMOSTAT®

DRAFTLESS *Aspirating* AIR DIFFUSERS

ANEMOSTAT CORPORATION OF AMERICA

10 EAST 39th STREET, NEW YORK 16, N. Y.

REPRESENTATIVES IN PRINCIPAL CITIES

"NO AIR CONDITIONING SYSTEM IS BETTER THAN ITS AIR DISTRIBUTION" AC-1284

What the TEXTILE MILLS are doing

F. C. Huyck & Sons (Kenwood Mills) have completed arrangements for purchase of the entire capital stock of **Gay Brothers Co.**, Cavendish, Vt.

Crompton Co., West Warwick, R. I., has plans for erection of a mill at Osceola, Ark., reported to cost nearly $4,000,000, with equipment.

THE "JUNIOR CLEANER"

(Pat. Pend.)

Does a "Man-Size" Job!

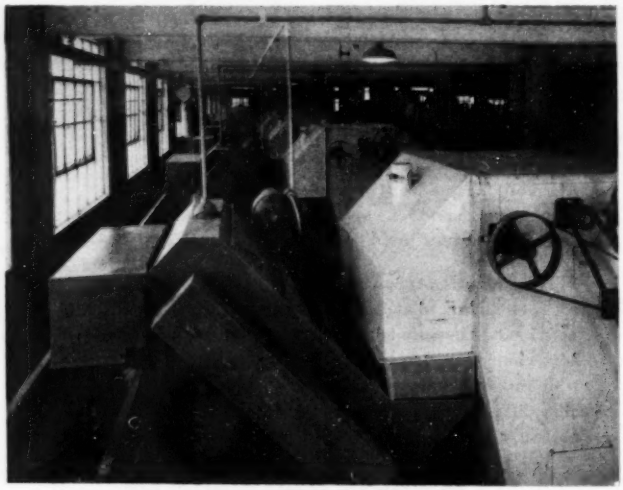
For use between hopper and conveyor.

Delivers to regular cleaning line.

Completely opens and pre-cleans small amount of cotton delivered to each hopper in battery, so that machines in regular cleaning lines do *more cleaning* with *less staple breakage.*

Requires 43" between hopper and conveyor table.

PROVED BY TEST



Shown above is a complete installation of "JUNIOR CLEANERS" in opening room of an Alabama mill.

Manufactured by

GASTONIA TEXTILE MACHINERY CO.

GASTONIA, NORTH CAROLINA

Sylvan J. Hyman has purchased the interest in **Hyle Hosiery Co.**, Louisville, Ky., formerly held by Isadore L. Levine, and will operate the mill in the future.

Harrison F. Lyman, Jr., is president of **New England Textile Corp.**, 75 Federal St., Boston, Mass., recently organized for manufacture of textile fabrics.

A mill for manufacture of braids, narrow fabrics, etc., will be operated by the recently organized **Admaur Braid & Trimming Co., Inc.**, 100 Oak St., Taunton, Mass. Nathan Adler is president.

George B. Mullin, 29090 Morlock Road, Farmington, Mich., is principal incorporator of **Labtex Tricot, Inc.**, chartered to operate a mill for manufacture of tricot cloth.

All Fabrics Textile Printers, Inc., incorporated to operate a textile print works, is represented by Hyman Selman, 7-8 Chatham Sq., New York, N. Y.

A one-story addition to the mill for warehouse service is planned by **Graham (N. C.) Hosiery Mills, Inc.**

Vaughan Knitting Co. has under construction a one-story mill at Spruce Pine, N. C.

Bristol (R. I.) Lace Works, Inc., is planning construction of a one-story addition to the plant, to be used as a dyehouse.

Blackstone Dye Works, Inc., Woonsocket, R. I., has been chartered for operation of a dyeing and finishing plant. Doris Decelle is one of the incorporators and representatives. The same interests have incorporated **Hebert Knitting Co.**, to operate a knitting mill.

Installation of additional equipment at its mill in Moncks Corner, S. C., is planned by **Berkshire Woolen Co.**

Beaumont Manufacturing Co., Spartanburg, S. C., plans the construction of a one-story and basement addition to the plant, to be equipped in part for increased production of duck for army requirements. Some of the space will be used for warehouse service.

Mills Mill No. 3, Saxon division, Spartanburg, S. C., has awarded contract for construction of a one-story addition, to be used as a warehouse.

A one-story addition, for extensions in the bleach house, is planned by **Fairforest Co.**, Spartanburg, S. C.

Glass Fibers, Inc., Waterville, O., is planning establishment of a branch mill in southern California, to be equipped for processing and production of glass wool and glass fiber rovings. The firm also has an expansion program under way at the Waterville plant.

An expansion and improvement program has been planned by **M. T. Stevens & Sons Co.,** at its mill in Tilton, N. H. A one-story addition will be constructed and new equipment installed. The firm will also modernize the boiler plant in the mill at Franklin, N. H.

The recently chartered **Foster Hosiery Mill, Inc.,** will operate a knitting mill at Burlington, N. C. Charles and C. T. Foster are among the incorporators.

In a financing program, **Textron Southern, Inc.,** has sold its mill at Charlotte, N. C., to Vanderbilt University, for a reported consideration of $2,700,000. In turn, Textron has arranged for a lease of the entire property for eleven years, with option to renew, and will continue operations as heretofore.

An expansion program is planned by **Burlington Mills Corp.,** at its plant in Cramerton, N. C.

B. & R. Textile Corp., Lenoir, N. C., was recently incorporated for manufacture of cotton fabrics. C. A. Cochran and F. A. McCleneghan of Charlotte, N. C., are principal incorporators.

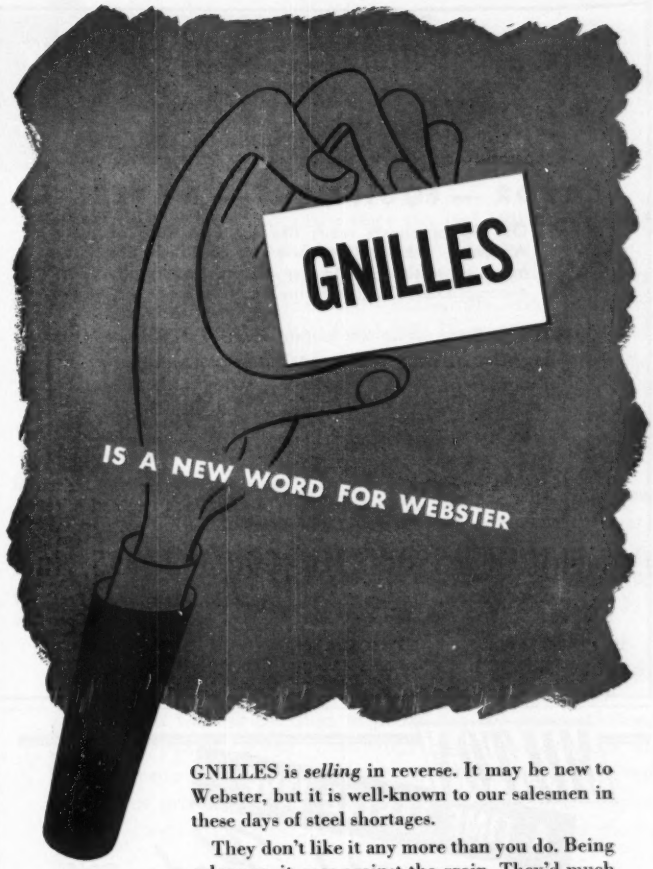
Collins & Aikman Corp. has installed additional looms in its plant at Roxboro, N. C., to replace certain spinning machinery which has been transferred to another location. The looms will be used for manufacture of automobile upholstery. Other equipment transferred from the Philadelphia mill will be used for furniture upholstery.

An expansion and improvement program is planned at **Jewel Cotton Mills,** Thomasville, N. C. The project is estimated to cost close to $200,000.

A one-story addition to the plant of **Seekonk Lace Co.,** Pawtucket, R. I., is under construction, and additional equipment will be installed.

A new rayon weaving mill is under construction by **Martin Fabrics Corp.** at Emporia, Va., reported to cost $315,000, with equipment.

The filament weaving mill of **Aberfoyle, Inc.,** Norfolk, Va., has been acquired by **Dan River Mills.**



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They don't like it any more than you do. Being salesmen, it goes against the grain. They'd much rather be out there selling.

But today, that's out. So they are devoting their time trying to keep customers satisfied; helping them to arrive at suitable substitute steels; advising them on availabilities; keeping up with latest government regulations; helping make allocations on a fair and equitable basis.

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What the TEXTILE MILLS are doing

Inc., and will henceforth be known as the Norfolk Division of Dan River.

The Naval Ordnance plant near Milledgeville, Ga., has been sold to **J. P. Stevens & Co., Inc.**, who have been operating it under lease for manufacture of woolens and worsteds.

U. S. Velvet Corp., recently chartered, will operate a mill near Providence, R. I., for manufacture of velvets and allied textile products. Florie DeSimone, 557 Fruit Hill Ave., North Providence, is representative.

The Bella Co., owned by N. A. Malesky, formerly with Prestige, Inc., has started operations in Mount Pleasant, Tenn., manufacturing full-fashioned hosiery. D. E. Walley is manager of the new plant.

Operations at the Kerr St. Plant of **Hoover Hosiery Co.**, Concord, N. C., have been discontinued and the machinery is being liquidated. At the firm's new air-conditioned plant on Highway 29A, 24 of the latest 51 and 60 gauge, 30-section full-fashoned machines have been installed, in line with present policy to concentrate on the finer quality of hosiery. Sales forces in the Chicago area as well as the far west have been expanded.

Republic Cotton Mills have announced completion of their beam and package-dye plant at Great Falls, S. C. It is located in the present Plant No. 3 and will enable the mills to do a complete job of finishing their grey yarn in any required color.

A new narrow fabrics mill, known as **Gibbons Mills, Inc.**, has been organized in Cedartown, Ga., with R. M. Gibbons, Jr., president and manager.

Ray-Crest Mills, Inc., and affiliated textile companies have announced the appointment of Julius Klein Public Relations firm as public relations consultant.

Fimmco Textile Mills, 23 Water Street, Worcester, Mass., was recently organized as a weaving mill by four displaced persons.

The Peace Dale (R. I.) Mills of the M. T. Stevens division of **J. P. Stevens and Co., Inc.**, which have been

closed since 1947, were recently placed on the market. Also being liquidated are five units of the Hockanum Mills, Rockville, Conn., another division of the firm.

Plans are under way for construction of two textile mills in Mississippi, to be occupied by **Textron, Inc.**, according to a recent announcement. One of the mills, to be located at Ackers, will cost approximately $2,600,000.

The 35th anniversary of **Jefferson (Ga.) Mills, Inc.**, was celebrated with an old-fashioned barbecue on July 14 participated in by approximately 2500 employees, their families, and other guests.

C. W. Anderson & Co., Inc., Clinton, S. C., full-fashioned hosiery, is planning an expansion program which will increase production by 25%.

Piece Dye Works, Paterson, N. J., are building a new extension to their plant which will permit employment of fifty additional workers.

An expansion program under way at **Dapper Hosiery Mills**, Clinton, S. C., is expected to increase the plant's production by 25%.

A branch knitting mill near Andrews, Pa., is under construction by **Berkshire Knitting Mills**, Reading, Pa.

Langdale (Ala.) Mill, a unit of West Point Manufacturing Co., has awarded contract for an addition to the plant.

Standard-Coosa-Thatcher Co. has awarded contract for construction of a one-story addition to its Coosa Mill at Piedmont, Ala., to be used for warehouse service.

Lobsitz Mills, Nutley, N. J., recently opened a branch office at 176 Federal St., Boston, Mass. Frederick D. Jewett and Frederick D. Jewett, Jr., are in charge.

Opelika (Ala.) Manufacturing Corp. has concluded arrangements for the purchase of **Superba Mills, Inc.**, Hawkinsville, Ga., and will continue its operation as a branch mill.

Phoenix Trimming Co., 200 North Racine Ave., Chicago, Ill., has let contract for construction of a four-story addition to the mill.

Edwin H. Fitler Co., Philadelphia, Pa., has leased a ten-acre tract of waterfront property in New Orleans, La., to be used as the site of a new

There IS a Difference in Textile Casters

In less than two years since the first WIL-MAT Caster was made, WIL-MATS have been adopted as standard equipment on many of America's finest textile trucks and are being specified—exclusively—on the orders of many of America's finest mills. Those who have tested and tried WIL-MAT Casters have found them to be different . . . and better.

We Specialize

The WIL-MAT plant is the only one in America devoted entirely to the production of textile casters. Its personnel has had long years of experience in this field, and WIL-MATS' practical construction is the result of that experience.

WIL-MAT Casters excel all other casters in free rolling, length of service, and in freedom from clogging up . . . and we will be glad to prove this by demonstration. WIL-MAT curved, chip-proof bevel cannot wear to sharp edges and its tread will not pick up grease, oil or grime to track up floors. Its advanced and rugged construction distributes and absorbs stress and shock.

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Warp spinning bobbins for high speed production and quality yarns . . . made from Hard Rock Maple.

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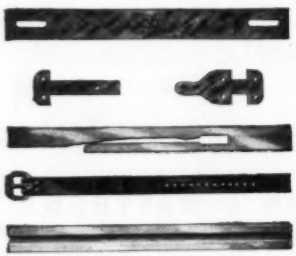
WHY BUY 3 or More Check Straps When Just 1 ABC HAIRON Will Do?

By actual tests one ABC HAIRON Check Strap has outlasted up to as many as six competitive straps.

Make a test in your mill . . . buy 100 lbs. of ABC HAIRON straps and 100 lbs. of straps from selected manufacturers. Have one loom fixer install all straps and keep accurate records.

ABC HAIRON will win out again!



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SPECIALISTS IN BUILDING STRAPS TO SUIT YOUR LOOM

What the TEXTILE MILLS *are doing*

mill. Cost is estimated to be about $1,000,000, with equipment.

Walter M. Marston is president of **Walter M. Marston Co., Inc.,** 419 Summer St., Boston, Mass., recently chartered for the manufacture of woolen and synthetic fiber specialties.

Textron, Inc., has entered into negotiations with city officials of Meridian, Miss., for construction of a plant to be occupied under long-term lease, for manufacture of cotton twills and kindred goods. It is expected that employment will be given to about 1200 persons.

Peterzell & Gelles, Inc., Pascagoula, Miss., knit goods, is merging with **Superior Co., Inc.,** Piqua, O., under the name of **Onyx-Superior Mills, Inc.** Paul P. Gelles will be chairman of the board and Sol Kittay of Superior Co., will be president.

Barclay Knitwear Co., New York, N. Y., and **Pauker Boyswear,** Philadelphia, Pa., have been consolidated under the first noted name. Michael Pauker is president of the new organization.

Commonwealth Hosiery Sales Corp., recently chartered, will operate a mill at Randelman, N. C., for manufacture of women's seamless hosiery. E. W Freeze, Jr., is one of the heads of the new company.

Sellers Dyeing Co., Inc., Saxapahaw, N. C., has been chartered by officials of **Sellers Manufacturing Co.,** to take over and operate bleaching and dyeing mills of the latter company.

Coopersburg (Pa.) Textiles, Inc., has been acquired by new interests headed by Caeser DeKrane. **Coopersburg Silk Co.** has been organized to take over and operate the mill, with production to continue in silk and rayon neckwear fabrics.

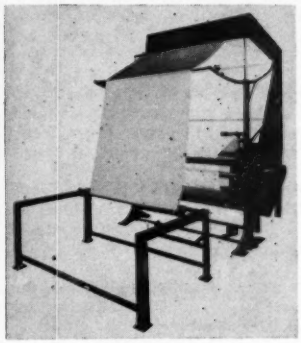
Gudebrod Brothers Silk Co., Inc., Pottstown, Pa., will expand production facilities at a cost of approximately $47,095, primarily for manufacture of surgical sutures.

C. W. Anderson Hosiery Co., Clinton, S. C., has an expansion program under way to increase its present output by approximately 25 per cent.

E. O. Moran is proprietor of the newly organized **Valley Maid Hosiery**

SYKES

Cloth Inspectors Provide Better Finished Fabrics



Model No. 200N

Sykes builds 20 different types of cloth inspection machines, each designed to do a particular job in your mill.

The Sykes No. 200 N with lighting encasement is a Constant Speed inspecting and measuring machine and is the ideal machine for inspecting cotton, rayon, nylon or plastic materials.

Sykes inspecting and measuring machines are standard equipment in many of the country's largest mills.

Let us know your requirements.

BUILDERS ALSO OF:

Burling machines Aluminum Tubing Rolls for Batching machines 1½" and 2" paper tubes.
Steel Collapsible Rollers.
And Inspection Tables to your own specifications.

Sykes Fdry. & Mach. Co.

Burlington, N. C.

P. O. Box 1178 **Phone 4281**

Co., Kellers Church, Pa. 51-gauge full fashioned hosiery will be manufactured.

Virginia Textiles, Inc., has moved its plant from Williamantic, Conn., to larger quarters in Central Falls, R. I.

Union Underwear Co., Inc., has a new mill under construction at Campbellsville, Ky., which will almost double the productive capacity of the firm. It will be used for manufacture of men's and boys' underwear.

Ely & Walker Dry Goods Co. has acquired all of the capital stock of **Rockwood (Tenn.) Mills, Inc.,** and plans to add new machinery and equipment and modernize operations. The present organization will be retained as nearly intact as possible. The operations will be under the supervision of Russell Carley, manager of Ely & Walker's hosiery division.

Tam O'Shanter, Inc., children's knitted apparel, has begun construction of a 35,000 sq ft factory in Manchester, N. H., which is expected to double its present production capacity.

Of all weaving department classes in Georgia during the past session of vocational classes, the second shift loom fixing class at **Riegel Textile Corp.,** Trion, Ga., had the highest average attendance. In addition, of all textile employee groups, the employees of Riegel maintained the fifth highest average attendance per group.

The 65th anniversary of **Wennonah Cotton Mills Co.,** Lexington, N. C., was celebrated on August 3 with an anniversary dinner dance.

Utilities in Lanett, Ala., formerly owned by **West Point Manufacturing Co.** and **Lanett Bleachery & Dye Works** have been donated to the city of Lanett. Included are the electric, sewage, and water distribution systems of the city and 45-unit school building, a modern cafeteria, and the block of land occupied by the school property.

Woodside Mills have purchased the **Haynsworth Mill** and **Otteray Textiles, Inc.,** Anderson, S. C. Personnel and organization at both plants will remain unchanged.

The Puritan Sportswear Corp. is the new name of **Puritan Knitting Mills, Inc.,** Altoona, Pa., according to a recent announcement.

HOW TO GIVE YOUR FLOORS A FUTURE

(Above) Dark oil-soaked floor maintained by scrubbing. (Right) Similar area, same dirt conditions, but TENNANT dry-cleaned.

An example of results you can get with the

TENNANT *System* OF FLOOR MAINTENANCE

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KEEPS FLOORS BRIGHT by fast mechanized dry cleaning. Eliminates scrubbing.

MAKES FLOORS EASY TO CLEAN. Dirt cannot readily adhere to smooth-sealed floors. Wipes off easily.

CUTS MAINTENANCE COSTS by saving manhours. Floors clean up like magic and stay clean much longer than when scrubbed. Floors stay dry, hard, lustrous; reduces slip hazards.

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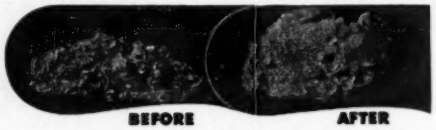
Established 1870

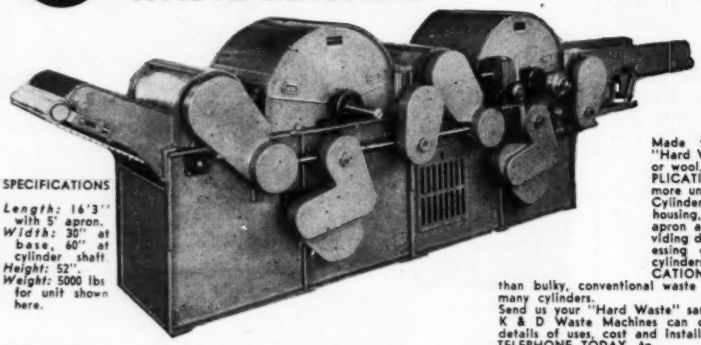
OFFICES IN PRINCIPAL CITIES

You can now whip your "HARD WASTE" problem with the new



LEFT above is hard twist unsized cotton warp waste. RIGHT—the processed waste after one time through K & D Tandem Unit. Many mills, pleased with such results from first installation, have ordered additional units.

K&D TANDEM APPLICATION WASTE MACHINE



SPECIFICATIONS

Length: 16'3" with 5' apron.
Width: 30" at base, 60" at cylinder shaft.
Height: 52".
Weight: 5000 lbs for unit shown here.

Made for processing unsized "Hard Waste" in cotton, rayon, or wool, this new TANDEM APPLICATION combines two or more units of the K & D Single Cylinder Waste Machine in one housing, with only one feed apron and one exit apron. Providing double-action waste processing on each of the unit's cylinders, the TANDEM APPLICATION is far more efficient than bulky, conventional waste machines with twice as many cylinders.

Send us your "Hard Waste" samples for *proof* of what K & D Waste Machines can do for you. Ask us for details of uses, cost and installation. WIRE, WRITE, or TELEPHONE TODAY, to

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OTHER AGENTS in FOREIGN COUNTRIES

SUPPLIERS News
WHAT THEY ARE DOING

All manufacturing and patent rights held by the Yeast Processing Equipment Co. have been purchased by the **Metal Glass Products Co.**, Belding, Mich.

The Woodruff Key Division of **Whitney Chain Co.**, has been transferred to **Standard Steel Specialty Co.**, which has established additional service facilities through expansion of plant facilities at Hammond, Ind.

M. E. Herndon, Jr., Charlotte, N. C., has been made southern sales

Mr. Herndon

representative for **Air-Perme-Ator Manufacturing Co.**

Thomas W. Curtin succeeds W. B. Crossland, resigned, as director of purchases of the Philadelphia division, **Yale & Towne Manufacturing Co.** John T. McCarley has been made assistant general manager, and Kenneth H. Bergstrom succeeds him as manager of production.

Virginia-Carolina Chemical Corp. has announced the appointment of John H. Karrh as manager of the fiber division. He is succeeded as sales manager by Jesse F. Yeates, Jr.

Aberfoyle Manufacturing Co. has announced the election of W. T. Galey, Jr., to the newly created office of chairman of the board of directors. He has been with the firm since 1903. Mr. Galey is succeeded as president by Joseph P. Holt, formerly vice-president and treasurer.

John Hayes and Robert P. Richardson have joined the firm of **Crawford & Garner, Inc.**, Spartanburg, S. C. Mr. Hayes will handle sales in parts of South Carolina and western North Carolina; Mr. Richardson's territory will include central and eastern North Carolina.

Roscoe C. Wagner, vice-president in charge of operations of **Clinton Foods Inc.'s** corn processing division, was recently elected to the board of directors and made president of the division. Earl Millard, president of American Partition Corp., a subsidiary, was also named to the board of directors.

H. E. Humphreys, Jr., succeeds Herbert E. Smith, retired, as chairman of the board of directors of **United States Rubber Co.** He will continue in his present capacity as president of the firm. John W. McGovern was named to the executive committee, and Howard N. Hawkes was elected a vice-president and appointed to succeed Mr. McGovern as general manager of the tire division.

An industry-wide certification program, designed to assure standard quality and protect industrial users of mineral wool products, was recently announced by the **Industrial Mineral Wool Institute of New York.** The Institute includes sixteen leading manufacturers of mineral wool insulation, with plants in all sections of this country and Canada.

George H. Goecke has been named sales engineer for **Industrial Ovens, Inc.** He will use the Cleveland headquarters of the firm as his base of operations. Before joining the firm, Mr.

Mr. Goecke

the world renowned "Old Faithful" Double Head

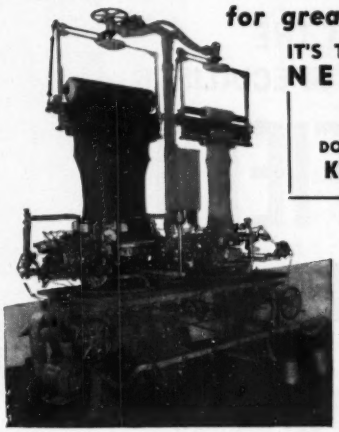
NOW FULLY MODERNIZED

for greater versatility!

IT'S THE NEW

TOMPKINS

DOUBLE HEAD SPRING NEEDLE KNITTING MACHINE



- Individual motor drive for each head
- Stop motion controls at 3 points of yarn delivery
- New furnishing wheels for uniform yarn delivery
- 8" to 35" cylinders
- 5 to 50 gages

A much welcomed improvement in fabric at a lower cost in manufacture is yours with a saving on labor, waste and needles! You get new speed and new economy plus the versatility of fabrics (fine silk underwear to heavy overcoating) for which Tompkins machines have been world renowned since 1846! Three-color striper and a fool proof pattern attachment available. Write for complete information.

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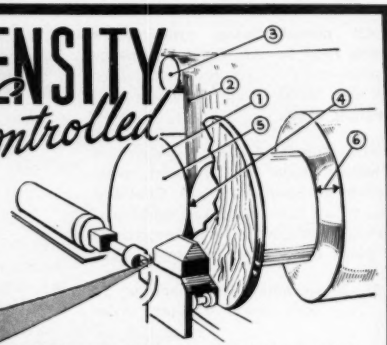
WAMESIT WARPER COMPANY
40-44 CHURCH STREET LOWELL, MASS.

DENSITY *Controlled*



(1) The even and equal density is controlled hydraulically. (2) The constant yarn angle, (3) from delivery roll, (4) to nip of beam, (5) and pressure roll, (6) thus metering the yarn onto the beam, produces section beam warps of EVEN and EQUAL DENSITY from barrel to head with absolute UNIFORM TENSION of warp ends throughout the beam diameter build-up.

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Proven Worthy of Your Consideration for Control of PRODUCTION and QUALITY

THE MANY FEATURES INCLUDE ● VARIABLE SPEED, REMOTELY CONTROLLED, PERMITS TOP PRODUCTION OF ANY TYPE OF YARN ● SPEEDS 200-800 Y.P.M. ● ELECTRIC STOP MOTION ● MEASURING DEVICE ● SMOOTH CLUTCHING ● ACCOMMODATES BEAMS UP TO 32" DIA. HEADS

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- COTTON, RAYON and SYNTHETIC YARN WARPERS AND CREELS
- BALL WARPING MACHINES
- ALL TYPES OF EXPANSION WARPERS, BEAMER AND SLASHER COMBS
- NARROW FABRIC WARPERS
- INTERMEDIATE DRESSER STAND FOR WOOLEN AND WORSTED
- EXPANSION NECK REEDS
- REPLACEMENT PARTS FOR SACO-LOWELL and ENTWISTLE WARPERS

10.000.000 CARDING POINTS NEED PERFECT GRINDING ROLLS

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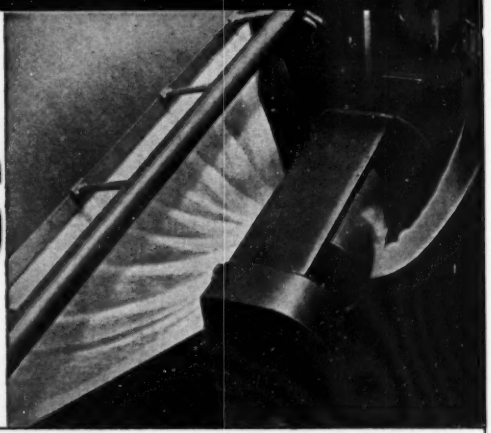
DRONSFIELD'S

TRAVERSE WHEEL GRINDER Nº 120



SOLE AGENTS FOR DRONSFIELD'S MACHINERY :-
JOHN HETHERINGTON & SONS INC
72 LINCOLN ST., BOSTON, MASS.
N. MARIETTA ST. EXT., GASTONIA, N. C.

SOLID GRINDING ROLLER Nº 112

DRONSFIELD BROTHERS LTD · OLDHAM · ENGLAND

SUPPLIERS News
WHAT THEY ARE DOING

Goecke was with the Warren (Mass.) Steam Pump Co.

Four new executive appointments have been made by **Interchemical Corp.**, textile colors division. John Zelek has been made vice-president

Mr. Baumann **Mr. Zelek**

in charge of research and development; Arthur Booth, vice-president in charge of production; Fred Baumann, vice-president in charge of trade relations; and Francis H. Bebee, administrative assistant to the divisional president.

Aluminum Co. of America has plans for construction of a new aluminum smelting plant near Waco, Texas.

John E. Renner has been made general sales manager for **Lincoln Engineering Co.**, St. Louis, Mo. He will direct sales of the firm's automotive, agricultural, and industrial divisions.

I. Melville Stein has been elected to the newly created post of executive vice-president of **Leeds & Northrup Co.** He has been with the firm since 1919, and was a vice-president prior to his new appointment.

Pittsburgh Plate Glass Co. has announced plans for a $8,500,000 expansion of chlorine and caustic soda producing facilities at the Natrium, W. Va., plant operated by Southern Alkali Corp., a wholly-owned subsidiary.

Commercial Solvents Corp. has announced the appointment of W. Ward Jackson as general manager of its industrial chemicals division. Before joining this firm, Mr. Jackson was associated with Celanese Corp.

Permission has been granted by the NPA in Washington for **The Dobeckmun Co.** to resume the manufacture of "Lurex" metallic yarns. Only gold and silver yarns will be manufactured at present, according to H. E. Allen, manager of the yarn division, and it is expected that supplies will continue to be limited in relation to demand.

Manning Maxwell and Moore, Inc., have rented a large portion of the eleventh floor of the new Chrysler Building, East, New York, N. Y. The building is expected to be ready for occupancy in November.

Oscar Kohorn & Co., Ltd., has announced the election as vice-president of Peter A. McDermott, formerly director trade and services, economic and scientific section, general headquarters, SCAP, Tokyo, Japan.

Vice-presidents J. L. Singleton and R. S. Stevenson were recently elected to the board of directors of the **Allis-Chalmers Manufacturing Co.** They succeed the late Walter Geist and W. C. Johnson

Ralph Gossett and Co., Greenville, S. C., have opened an office at 11 West 42nd Street, New York, N. Y., for the handling of export supplies to South America and Europe.

George F. Long, formerly with Swift & Co., has been added to the textile sales engineering staff of **W.**

Mr. Long

C. Hardesty Co., Inc. He will sell the firm's complete line of fatty acids.

Robert Price has been appointed sales manager of the plastic products division and Edgar T. Gregory named manager of flat belting sales of the **B. F. Goodrich Co.** Donald E. Schlemmer has taken over Mr. Gregory's former position as operating manager of the industrial products sales department. Robert Mansfield succeeds Mr. Price as manager of the development department. B. F. Goodrich Chemical Co., a division of the firm, plans construction of a new plant in Calvert City, Ky., which

Orr
SLASHER
Cloth
With Special
Chemical Treatment
Something New and Better

● Slasher Cloth is an important maintenance item in a cotton mill. With the introduction of ORR Slasher Cloth with Special Chemical Treatment, many of the problems which have pestered the slasher room foreman have been eliminated.

The slasher room foreman, in order to satisfy the superintendent and the cost department, must have available a Slasher Cloth that:

1. Dresses the yarn properly.
2. Holds its width. No shrinkage.
3. Maintains level production performance.
4. Starts fast — lasts long.

ORR Special Treated Slasher Cloth maintains uniform dressing properties, resists bacteria and steam degradation, maintains dimensional stability. Discuss your Slasher Cloth problem with your ORR representative.
Distributed by

J. S. FALLOW & CO.
279 Union St., New Bedford, Mass.
OLIVER D. LANDIS
718 Queens Rd., Charlotte 7, N. C.
Telephones: 3-0958—3-4557
P. W. COLEMAN
Box 1393, Greenville, S. C.

MANUFACTURED BY
THE ORR FELT & BLANKET CO.
PIQUA, OHIO, U. S. A.

Industrial Woolens by Orr
STARTS FAST — LASTS LONGER

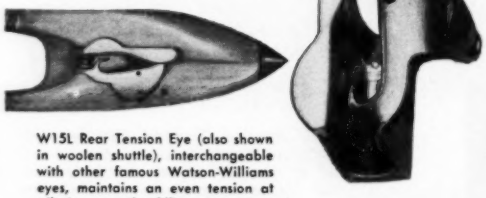
Three Shuttle Items WELL WORTH DELIVERY

Exactly When You Want Them

You know from experience the value of one or more of these three Watson-Williams Shuttle Improvements. Don't be without them. Materials to make them and other parts for Watson-Williams Shuttles remain hard to get. But we can maintain your shuttle deliveries if you will give us the opportunity by ordering far enough ahead of time.

Please anticipate your Watson-Williams Shuttle Needs

The Blanchard Quarter Turn Locked Adjusting Screw which defies loom vibration and shuttle handling, to remain where you set it.



W15L Rear Tension Eye (also shown in woolen shuttle), interchangeable with other famous Watson-Williams eyes, maintains an even tension at all times on the filling, to prevent many troublesome weaving imperfections.

S7X Reverse Wind Center Tension Eye (also shown in Rayon Shuttle for S5 and S6 Looms) solves a number of rayon filling problems by holding the thread in perfect alignment and constantly down in place.

WATSON-WILLIAMS MFG. CO.

MILLBURY, MASSACHUSETTS

SOUTHERN REPRESENTATIVES:

Watson and Desmond, Box 1954, Charlotte, N. C.
Arthur J. Bahan, 810 South Carolina National Bank Bldg., Greenville, S. C.
John Wyatt, Jefferson Bldg., Greensboro, N. C.

NORTHERN REPRESENTATIVE:

Guy C. Burbank, 32 Beaconsfield Rd., Worcester 2, Mass.

TANNER TEXTILE CHEMICALS

VERSENE FE 3 Specific*

Most powerful iron complexing agent known in normal pH range.

VERSENE*

Most efficient general complexing agent. Softens water completely and permanently without precipitation.

• • THE *Versenes**

VERSENE T*

Prevents and removes iron deposits from fabric treated with concentrated caustic.

VERSENE FE 3*

Prevents hard water deposits and iron stains.

VERSENES AND TEXTILES

The Chas. S. Tanner Company, as Southern Agents for the Bersworth Chemical Co., now offers you the Versenes in the South. By controlling metallic contamination, these most modern of chemicals give *cleaner* fibres, *softer* woolens and visibly *whiter* cottons. Among other things, they completely soften hardest water without precipitation.

OTHER TANNER CHEMICALS

Suedex Series.
These Resin Emulsions are semi permanent and easy to use in process finishing. Color yield is excellent and they give varying degrees of stiffness, fullness and finish on broadcloth and cottons of 80 squares.

Crystal Film.
These are Co-polymer type resins. They give beautiful transparent finishes. There are four types. Similar to Suedex in function but are used where even finer finishes are desired.

Ether Gum Binder.
For all types of clay or talc fillers for cotton goods. Non-yellowing properties.

Tantex A and Tantex B.
The *Durable* Type Water Repellent. Cottons treated the single bath Tantex way will retain their repellency for 3 washings or 3 dry cleanings. It will pay to investigate.

CST Gum No. 5.
A weighter type material. Used as a finish but imparts much weight to the fabric.

Tanamine Series of Softeners.
This is a complete line of cationic, anionic and non-ionic softeners.

*T.M. Bersworth Chemical Co.

CHAS. S. TANNER CO. *manufacturing chemists*

EST. C.S.T. 1848

1815 LIBERTY LIFE BLDG. CHARLOTTE, NORTH CAROLINA

Home Office: Providence, Rhode Island

SUPPLIERS News
WHAT THEY ARE DOING

will represent an investment of more than $5,000,000.

Scott and Williams, Inc., has announced the appointment of Robert H. Lawson as assistant vice-president in charge of research.

Millard G. Gamble, III, has been named manager of "Cordura" rayon tire yarn sales of the **E. I. duPont de Nemours & Co.,** succeeding Pierre S. duPont, III, now assistant director of sales of the rubber chemicals division. Arthur M. Saunders, formerly district sales manager for the rayon division in Philadelphia, has been transferred to New York, succeeding Paul E. Munson, now district sales manager for "Orlon" acrylic fiber. R. H. Morgan, previously in Charlotte, N. C., is now in the Philadelphia division. Richard W. Trapnell, III, is district sales manager for "Orlon" in Charlotte, and Fred C. Allen is manager of the Providence, R. I., district.

Dow Corning Corp. has moved its offices to 600 Fifth Avenue, New York 20, N. Y.

Several new sales application engineers have been added to the staff of **Reliance Electric & Engineering Co.** Ralph D. Abercrombie, Jr., has been assigned to the Buffalo sales office; Rex T. Willard, Atlanta; Merle Kip Sieber, New York; and Nicholas D. McKay, Detroit. Cecil D. Wright and Charles F. Carnish, field service engineers, have been assigned to the firm's Charlotte and Detroit offices, respectively.

Ewalt Maurushat has been named sales engineer for the New England district of **Hyatt Bearings Division, General Motors Corp.** He replaces Frank U. Naughton, Jr., now manager of the eastern sales division.

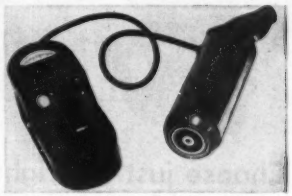
Thirty-three new sales engineers have been added to the staff of the Brown Instruments Division, **Minneapolis-Honeywell Regulator Co.** They recently completed a comprehensive course in industrial instrument main-

BUTTERWORTH'S $300,000 PLANT COMPLETED

H. W. Butterworth & Sons Co. has announced the completion of its new addition at Bethayres, Pa. The new building is the firm's main erecting shop and also includes a tenter chain and pressed roll departments, shipping department, drafting room, and business office. It has a total of 68,000 sq ft of floor space.

This new plant is the third step in a four-year expansion program. A new machine shop at Bethayres was completed in 1947, and in 1950 the Bethayres foundry was converted for manufacturing operations. Plants in Philadelphia and Providence were sold, and only the most modern machinery was moved to the consolidated operation at Bethayres.

two great models for TESTING MOISTURE CONTENT in wool, cotton, rayon and nylon



MODEL PD-1 for textiles in loose or compressible forms—3" penetration.

MODEL K-2 for textiles in cones, rolls, beams and similar forms.

10-DAY FREE TRIAL!

Try one of these moisture testing instruments for 10 days—use it, test it and prove its superiority. Send samples, moisture range and Purchase Order to cover trial period. No obligation!

QUICK, ACCURATE READINGS

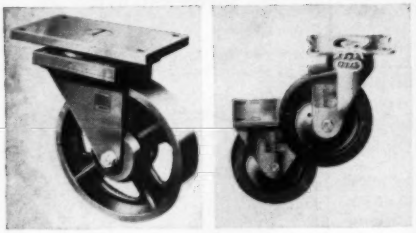
In less than 3 seconds you can test moisture content of practically all types of textile materials, including cotton, wool, rayon and nylon in fabrics, packages and loose forms.

This portable instrument is designed for "on the spot" checks in your plant. Moisture Register is easy to operate—requires no technical knowledge or complicated figuring. Cost is negligible in comparison to advantages. Write today for complete details. Specify type of material to be tested.

MOISTURE REGISTER CO.
Dept. H
1510 W. CHESTNUT ST., ALHAMBRA, CAL.

ELECTRONIC MOISTURE REGISTER
Mfd. by Moisture Register Co.

DARNELL CASTERS



Choose just the right caster or wheel for your needs from the Darnell line of nearly 4000 types. These precision made casters and wheels will help you speed up production . . . will pay for themselves many times over.

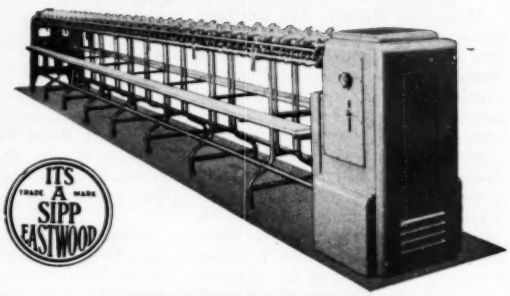
FREE Manual

DARNELL CORP LTD 60 WALKER ST NEW YORK N Y
LONG BEACH CALIFORNIA 36 N CLINTON CHICAGO ILL

A SAVING AT EVERY TURN

For Perfect Spools at Higher Speeds-

SIPP-EASTWOOD WINDER-REDRAW



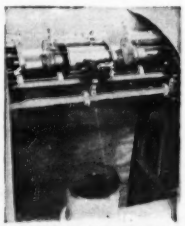
ITS A TRADE MARK SIPP EASTWOOD

- **SELF-THREADING TENSION**
- **SELF-OPENING SPINDLELESS ATTACHMENT**
- **FULL SPOOL STOP MOTION**

Deliberately designed for perfect spools at higher speeds and greatest possible automatic operation. This brand new winder-redraw requires a minimum of attention during operation and is easy to clean and maintain.

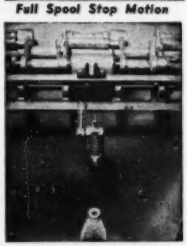
FEATURES:

1. **Washer type self-threading tension** fastened to traverse rail is easily adjustable and quickly cleaned. Eliminates all threading operations.
2. **Gate type tensions** available with self-threading Alsimag guides for nylon.
3. **Full spool stop motion** prevents overrun bobbins.
4. The drive and traverse mechanism is enclosed in one complete unit and is lubricated by a circulating oil bath.
5. Traverse adjustment is independent on each side of machine and can be adjusted from 3½" to 7" traverse without changing cam.
6. Speed changes are readily accomplished through the use of a handwheel.
7. Winds per stroke easily adjustable.
8. Single or double drive self-opening spindleless brackets are available.
9. Easily changed for "S" or "Z" twist by use of reversing switch.
10. Tachometer available for easy speed readings.



Self-Threading Tension

Full Spool Stop Motion



Gate Type Tension

Write for Descriptive Folder

SIPP-EASTWOOD CORPORATION

Producers of superior equipment for textile processing

45 KEEN STREET, PATERSON, N. J.

SUPPLIERS News — WHAT THEY ARE DOING

tenance and repair, and have been assigned to various areas throughout the country.

Worthington Pump and Machinery Corp. is planning a $500,000 modernization of its Oil City, Pa., plant, which will include re-equipping the present foundry and establishing a new electric power supply. A new

Mr. Gerbereux

branch office has been opened at 506 Hall Building, Harrisburg, Pa., with A. L. Mays in charge. V. de P. Gerbereux was recently appointed manager of the Centrifugal Pump Sales Division, succeeding A. H. Borchardt, now vice-president in charge of centrifugal, reciprocating, and vertical turbine pump sales.

Harry G. Bruns, formerly with the Industrial Trust Co, Providence, R. I., has been named treasurer of **Arnold, Hoffman & Co., Inc.**

As part of its expansion program, **Atlantic Steel Co.**, Atlanta, Ga., is constructing an electric furnace with an annual capacity of 100,000 tons of steel. This will supplement the firm's three present open-hearth furnaces, and will increase its annual capacity by 50%.

William R. Heath has been named manufacturing director of **Buffalo Forge Co.**, succeeding Nathan R. Johnson, who has retired after 35 years with the company. Taking Mr. Heath's place as chief engineer is John E. Gill. George P. Schivley, formerly plant superintendent, has been promoted to plant manager.

Logan Co., Louisville, Ky., one of the pioneers in the development of gravity and power conveying machinery for industrial plants, is celebrating its 75th anniversary this year. Started in 1876 under the name of The Dow Co., management of the firm was taken over by W. Hume Logan in 1884 and has remained under the active management of the family since that time.

Albert F. Hills was recently named president of **Crouse-Hinds Co.**, and W. Cornell Blanding has become executive vice-president. The new secretary is Robert J. Sloan.

B. F. Goodrich Co. has announced the completion of a new $5,000,000 industrial belting plant in Akron, O.

Albert E. Hawkins has been appointed representative for **Allen Beam Co.** in New England, New York, New Jersey, and Pennsylvania. His headquarters are in the home office in New Bedford, Mass. Southern sales are handled by Joseph Bowler, Jr., with headquarters in Greenville, S. C.

William V. O'Brien has been appointed manager of **General Electric Co.'s** apparatus marketing division. He succeeds Chester H. Lang, now head of the firm's public relations organization.

Southern Leigh Textiles, Inc. has opened a branch office at 218 West Second Street, Charlotte, N. C., with Dennis J. Doherty in charge.

The Rapids-Standard Co., Inc., Grand Rapids, Mich., has announced the appointment of George R. Brock-

Mr. Rasmussen Mr. Brockway

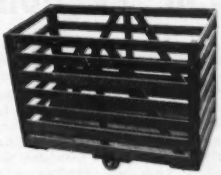
way as vice-president in charge of sales and advertising, and Harvey M. Rasmussen as sales manager.

Percy A. Legge, yarn broker, has opened an office at 1007 James Building, Chattanooga, Tenn.

F. A. Hopp, formerly with Rockwell Manufacturing Co., has been appointed advertising manager of **Cleaver-Brooks Co.**

The first major unit of **Pittsburgh Coke & Chemical Co.'s** central research laboratories at Neville Island, near Pittsburgh, Pa., just completed, more than doubles the firm's available laboratory space.

EXCEL



No Rust...
No Snagging
With Excel #600
Slatted
Conditioning
Trucks

Brass screws and cadmium plated bolts eliminate any possibility of rust. Because they are fastened from the outside they also insure against snagging. The Excel No. 600 is constructed of highly polished cypress or maple and finished with two coats of heat and acid resistant Tropelite to form a durable snag-proof surface. Slatted sides, ends and bottom permit perfect saturation and drainage.

Casters are securely bolted to bottom of truck.

Representatives:

Mr. N. W. Eurey.....Lincolnton, N. C.
Mr. Paul Eurey.....Lincolnton, N. C.
Industrial Suppliers, Inc.
La Grange, Ga.
Fall River Mill Supply Co.
Fall River, Mass.
Mr. Theodore Huston
2601 N. Broad St., Philadelphia, Pa.

EXCEL
Textile Supply Co.

"Excel Trucks Excel"

LINCOLNTON, NORTH CAROLINA

CONSERVE YOUR QUILLS!

Use the

NASH "79" QUILL POLISHER

to relacquer worn quills

You need not discard your old loom bobbins because they are worn or have slight surface imperfections. They can be sanded smooth, and re-coated with finishing material.
If your quills are in good condition, the conventional way of using the Nash No. 79 with steel wool pads, special polish and burnishing pads will produce a perfect surface finish, preventing filament breakage or transfer of dirt to the yarn.
Failure of the finish coat calls for a complete re-finishing operation on the body of the quill, and the Nash relacquering attachment was developed to meet this need.

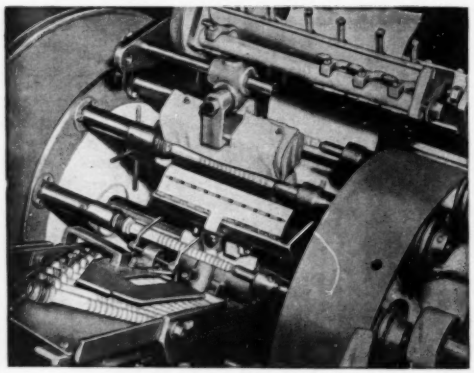
Lacquers 30 to 35 Quills Per Minute

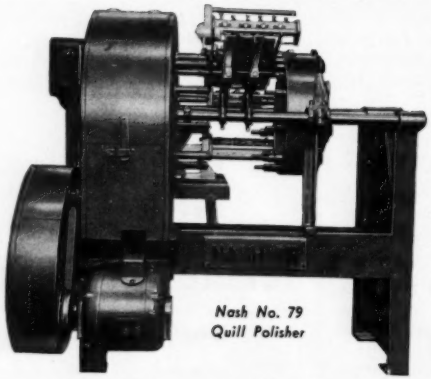
With the relacquering attachment just developed for use with the Nash No. 79 Quill Polisher, you can apply a new coat of Lacquer or else a shellac and oil finish—automatically at 30 to 35 bobbins per minute. The attachment is easily attached or removed.

Write for descriptive material on the Nash No. 79 Automatic Quill Polisher and Relacquering attachment.

J. M. NASH COMPANY
Dept. QP-79
2390 N. 30th Street, Milwaukee 10, Wisconsin

Close-up of Relacquering Attachment



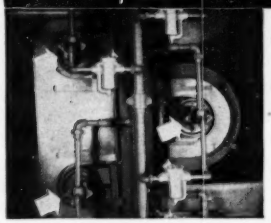


Nash No. 79 Quill Polisher

COMPLETELY PACKLESS
SELF-LUBRICATING
SELF-ADJUSTING
SELF-ALIGNING

Only Johnson Joints offer *all* these cost-cutting, trouble-saving, production - boosting benefits. *Only* Johnson Joints end *all* the shortcomings of old style stuffing boxes, without compromise of any sort. No wonder so many hundreds of mills, and so many machinery manufacturers, have standardized on Johnson Joints. Why not find out how quickly Johnson Joints can pay their own way in your mill.

Johnson *Rotary Pressure* Joints



Installation of Type B2 Johnson Joints on dry cans.

Write for catalog showing sizes and styles of Johnson Joints for all needs.

The JOHNSON CORPORATION, [illegible] Wood Street, Three Rivers, Michigan

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HEADQUARTERS IN THE SOUTH FOR HYDRAULIC MACHINERY

Introducing the

New, Modern Streamline SD HYDRAULIC OIL CYLINDER

The most "trouble-free" cylinder on the market today! Years of field experience and engineering "know-how" have made possible this improved cylinder design. Simplified two-piece screw-on design allows easy change of mounting; circular end castings eliminate all assembly bolts; dirt catching piston seals; heavy wall seamless steel tubing eliminates porosity; no resultant leakage as "O" Ring Gaskets seal with pressure; built-in internal relief valves—these are but a few of the features.

For complete descriptive information, write to:

STANDARD DESIGNERS INCORPORATED
12 BREVARD ROAD ● ASHEVILLE, N. C.

HELPFUL Booklets FREE

Here is the "cream of the crop" of literature on textile subjects as prepared by TEXTILE INDUSTRIES advertisers to aid in mill operation and management. These reference books and catalogs are free for the asking and there is no obligation involved. Read through the list carefully for booklet on the subject or new Equipment in which you are interested. Then fill in the numbers of those desired on the coupon on page 230 and mail it to TEXTILE INDUSTRIES. ("First Listings" shown below are not confined solely to TEXTILE INDUSTRIES advertisers).

This service is restricted to those engaged in operation and management of textile industries

NEW PUBLICATIONS

10-1. Plant Sanitation. Booklet entitled "New Idea on Plant Sanitation and Maintenance" is available to those interested in good industrial housekeeping and improved sanitation and maintenance. Attractively presented with the last portion devoted to questions and answers concerning problems others have faced in plant sanitation. G. H. Tennant Company, Minneapolis, Minn.

10-2. Bobbins. New catalog illustrating some of the specialized bobbins that are being used in the textile field. Described also is Lestershire's facilities for service, construction of bobbins for different uses, and materials utilized in their manufacture. Each bobbin pictured and uses given. Lestershire Spool & Mfg. Co., Johnson City, N. Y.

10-3. Interior Daylighting. Pittsburgh Corning Corporation has announced the development of the PC Daylighting Nomograph which makes possible the prediction of daylighting levels in a room before the building is constructed. With the aid of the PC Daylighting Nomograph the amount of daylight which will be present at any point in a room, and at any time of day and day of the year can be predicted with remarkable accuracy. Pittsburgh Corning Corporation, Public Relations Dept., 307 Fourth Ave., Pittsburgh 22, Pa.

10-4. Syton C-30. New bulletin describes this colloidal solution of hydrated silica in water for textile products. Numerous applications of the chemical as well as general properties discussed. Merrimac Division, Monsanto Chemical Co., Everett, Mass.

10-5. Automatic Processing Equipment. New booklet on continuous automatic processing equipment presents a timely and practical exposition of some of the more advanced machine design elements involved in continuous coating equipment for textiles. The booklet utilizes some fifty drawings and photographs keyed to the text. Industrial Ovens, Inc., 13825 Triskett Rd., Cleveland 11, Ohio.

10-6. Woolen Card. Booklet describing the new Model "L" wool card, which has as the key idea behind its design a belief that today's economy demands a card creating totally new concepts in production and cost figures. The booklet states that this theory has been justified by the results obtained with Model "L" cards already in operation. Advantages of new design fully discussed and illustrated. Davis & Furber Machine Company, North Andover, Mass., and Charlotte, N. C.

10-7. Fungus-Proofing Textiles. The Ferro Isotrols comprise a line of fungicides designed to meet the varied fungicidal needs of the treating industries, according to a new booklet which gives full information and data as an aid to potential users. Many different compounds discussed and composition, active metal content and physical properties are given for each. Ferro Chemical Corporation, P. O. Box 349, Bedford, Ohio.

10-8. Cloth Room Practices. New 30-page booklet entitled "Cloth Room Practices" has been received enthusiastically by mill men, as this is the first book ever written on this subject. Compiled from a series of articles written by Mr. Walter F. Woodward, southern representative of Curtis and Marble, this booklet is being used as a text by textile schools. Well illustrated. Curtis and Marble Machine Company, Worcester, Mass.

10-9. Water Demineralizers. Booklet describing the Barnstead demineralizers (often termed deionizer) which will make purified water of standardized controlled quality available at a cost as low as 5c per 1000 gallons. Process and models fully discussed and illustrated. Barnstead Still & Sterilizer Co., 2 Lanesville Terrace, Forest Hills, Boston 31, Mass.

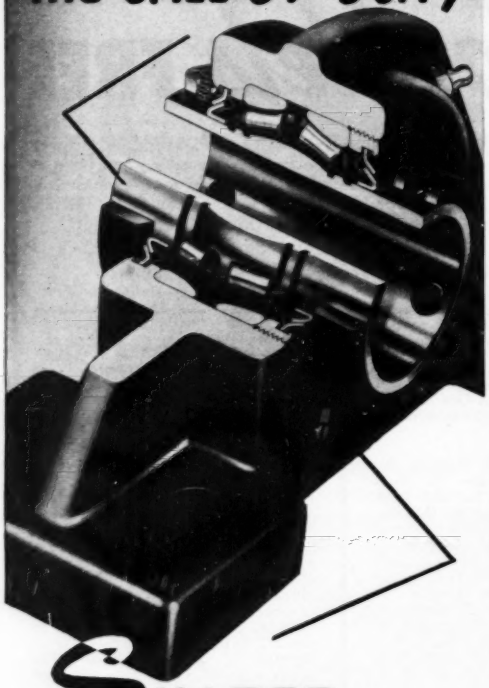
10-10. Power Distribution Systems. New booklet entitled "Electric Power" describes one of the most important electrical developments made in the last war; the application of load-center power distribution system. Factory-assembled, load center units enabled hundreds of new plants and production lines to get into operation sooner than was possible with individually designed low-voltage power systems, according to the booklet. Illustrated and fully discussed. General Electric Company, Apparatus Marketing Division, Schenectady 5, N. Y.

10-11. Plastic Rock Flooring. New 8-page, two-color brochure on Plastic Rock flooring contains a combination of information on how and where to apply Plastic Rock flooring as well as technical data about the product. Typical flooring applications illustrated. United Laboratories, Inc., Cleveland, Ohio.

10-12. Differential Converter. Catalog 2281 describes the new mercuryless flow meter, said to feature fast speed of response for flow control and continuous range change adjustment from 0-20 to 0-200 inches of water. Operating principles of this pneumatic-balance type flow transmitter are covered, as well as construction features, typical applications, etc. Minneapolis-Honeywell Regulator Co., Industrial Division, Philadelphia 44, Pa.

10-13. Power Transmission. Cata-log HD-51 has been released by Whitney Chain Company to aid in chain drive selection and it offers a simple, quick means of determining interchangeability of various makes of roller and conveyor chains. Information on determining the proper application of chain drives as a power transmission or conveying medium. Whitney Chain Company, Hartford 2, Conn.

SERVING BEYOND THE CALL OF DUTY



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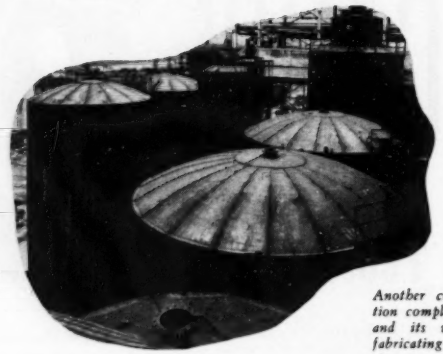

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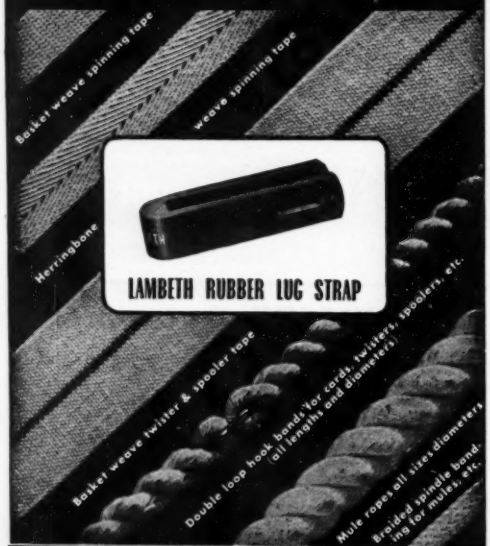
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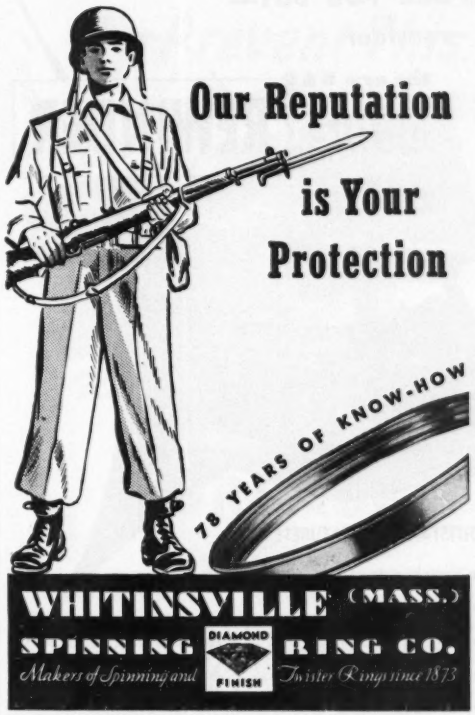

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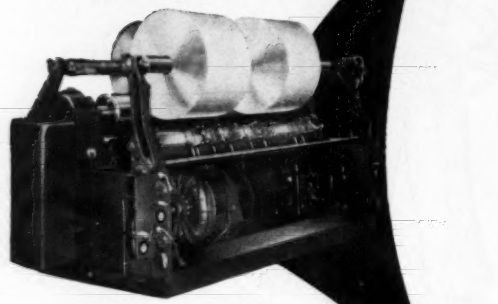

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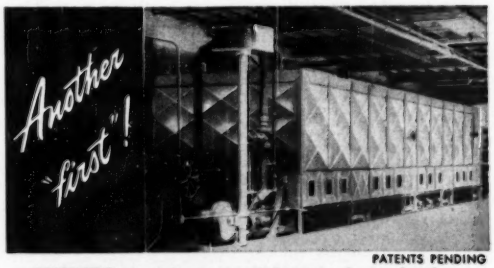

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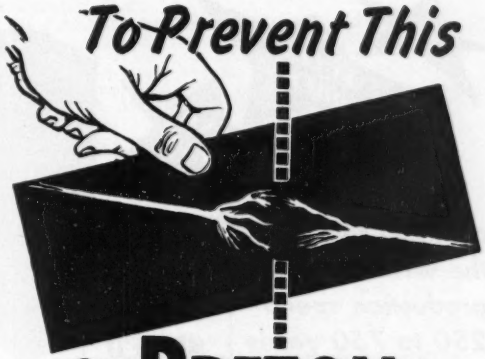

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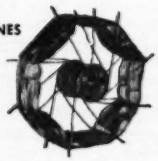

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531 **EVENNESS TESTER**—Folder explaining how this Tester takes the guess out of quality control and each processing step from carding through spinning.—USTER CORPORATION, Charlotte, N. C.

DYEING, FINISHING, CLOTH ROOM

611 **BRUSHING AND SHEARING MACHINES**—Illustrated literature on the new Hermas Brushing Machine for use light sheeting to heavy ducks; also on Hermas AV Shears.—HERMAS MACHINE CO., Hawthorne, N. J.

612 **PIXOL**—Recommended as a leveling and penetrating agent, especially for the dyeing of wool, described as being useful as a finish for worsted piece goods. Prevents bronziness in sulphur dyeing on cotton.—AMERICAN ANILINE PRODUCTS, INC., 50 Union Square, New York, N. Y.

619 **HIGH SPEED TENTER FRAME**—Illustrated leaflet showing modern design features which give greater production, longer life and fewer seconds.—MARSHALL AND WILLIAMS CORP., Providence, R. I.

625 **BALL BEARING ROLLER TYPE SCRAY** — Circular No. 904 describing the scray which is for use in handling heavy and large size rolls of cloth. This is used either in finishing plants or in the cloth room of cotton mills.—BIRCH BROS., INC., Somerville, Mass.

627 **SINGLE APRON STOCK DRYERS**—Folder presenting the latest idea in automatic drying which every mill having drying problems can profitably use to meet modern manufacturing conditions.—C. G. SARGENT'S SONS CORP., Graniteville, Mass.

634 **APPLICATION OF INTERCHEM ACETATE DYES**—Bulletin IAD-1 describes procedures for dyeing and printing acetate rayon and nylon fabrics with new line of highly dispersed acetate dyes.—INTERCHEMICAL CORPORATION, TEXTILE COLORS DIVISION, Hawthorne, N. J.

639 **ROTARY DYEING MACHINE**—Booklet No. 425 illustrating the features of these stainless steel machines used for dyeing hosiery, hats, gloves, socks, etc.—SMITH, DRUM & CO., Allegheny Ave. at 5th St., Philadelphia 33, Pa.

648 **SQUEEZE ROLLS**—Circular No. 1106 describes this four-tank machine for open-width processes. Squeeze rolls running in roller-bearings, pressure applied by air cylinders and the drive by D-C motors on each nip controlled by built-in dancer or compensating rolls.—BIRCH BROTHERS, INC., 32 Kent St., Somerville, Mass.

DYESTUFFS, CHEMICALS, SOAPS

701 **MAGNESIUM APPLICATIONS**—Case history information on magnesium application in the textile field, published bi-monthly with latest developments in the magnesium industry.—DOW CHEMICAL CO., Midland, Mich.

703 **WATER REPELLENTS**—Data sheet 1043 describes application of De Cetex 104, which is described as a durable, water repellent finish that is easily applied on conventional finishing equipment and its resistance to spotting; laundry or dry cleaning durability is good. DOW-CORNING CORP., Midland, Mich.

705 **THEORETICAL AND APPLIED SILK-SOAKING** —Attractive 23-page booklet outlining methods of silk-soaking and outlining investigation on the soaking, back-winding and degumming of silk.—HART PRODUCTS CORP., 1440 Broadway, New York 18, N. Y.

712 **VANDERBILT MATERIALS**—Available is a 6-page booklet describing non-toxic fungicides, and their use in textile operatons.—R. T. VANDERBILT CO., INC., 230 Park Ave., New York 17, N. Y.

713 **LIOVATINE ED**—Vat dyeing assistant increasing penetration and level dyeings with maximum yield of color.—SANDOZ CHEMICAL WORKS, 61 Van Dam St., New York City.

716 **WIDE RANGE SCOURING AND WETTING AGENT** — 4-page folder describing Houghton's concentrated, non-ionic, synthetic detergent and wetting agent, Cerfak 1300, usable over entire pH range for efficient scouring and wetting.—E. F. HOUGHTON & CO., Philadelphia 33, Pa.

738 **LEVELENE**—Booklet describing use of Levelene for leveling vat and direct colors. Also for stripping down vat colors.—AMERICAN ANILINE PRODUCTS, INC., 50 Union Square, New York, N. Y.

749 **WATER SOLUBLE GUMS** — Booklet giving the origin, gathering, marketing and uses of water soluble gums. This booklet No. 23 is beautifully illustrated, and is one of the few treatises on the subject.—JACQUES WOLF & CO., Passaic, N. J.

768 **TEXTILE CHEMICALS**—Buying guide and reference book giving facts about Amalgamated Products, the fabrics on which they give best results, their proper application, and their chemical composition.—AMALGAMATED CHEMICAL CORP., Philadelphia 34, Pa.

774 **ROYCE TEXTILE CHEMICALS** — This booklet briefly describes the leading Royce products for textile processing, printing, dyeing and finishing.—ROYCE CHEMICAL COMPANY, Carlton Hill, N. J.

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776 **SERIZYME** — Bulletin describing the properties and characteristics of Serizyme, a standardized liquid proteolytic enzyme preparation which can solubilize various types of protein substances. — WALLERSTEIN COMPANY, INC., 180 Madison Avenue, New York 16, N. Y.

KNITTING

801 **THE WILDMAN SINGLEHEAD FULL-FASHIONED HOSIERY MACHINE**—Literature on request from the WILDMAN MFG. CO., Full-Fashioned Division, Norristown, Pa.

806 **STATISTICAL SURVEY** — Covering the Full-Fashioned Hosiery knitting industry in the United States and Canada. — TEXTILE MACHINE WORKS, Reading, Penn.

810 **ALUMINUM BEAMS**—Catalog No. 1-21 describes Hayes magnesium and aluminum specialties for the textile industry. Illustrates this company's beams that are one-third the weight of conventional types.—HAYES INDUSTRIES, INC., Jackson, Mich.

812 **CIRCULAR KNITTING MACHINES**—Interesting, informative and well illustrated is this six-page folder, just released, which describes this company's small diameter circular knitting machine.—H. BRINTON COMPANY, Kensington Ave. and M St., Philadelphia 34, Pa.

813 **THE NEW REINER HIGH SPEED TRICOT MACHINE**—168" or 84" knitting widths. A richly illustrated catalog describing its many novel features of construction and performance.—ROBERT REINER, INC., Weehawken, N. J.

820 **VARIABLE STRIPES AND PLAIDS**—Booklet describing Supreme Models SA and SA-ROF Stripers for knitting plaids, checks, "floatless" designs and variable stripes. — SUPREME KNITTING MACHINE CO., INC., 105 Johnson Ave., New York.

828 **THE KIDDE KNITTER**—Bulletin describing this newest in Raschel-type warp knitting machines and higher production attained with it.—KIDDE MANUFACTURING CO., INC., Farrand St., Bloomfield, N. J.

SEWING MACHINES

915 **THE NEW UNION SPECIAL LOCKSTITCH MACHINE**—Information on the new model which cuts production time on sewing operations is contained in Bulletin No. 258.—UNION SPECIAL MACHINE CO., 400 N. Franklin St., Chicago 10, Ill.

916 **THE SUPERLOCK**—Bulletin 828 describing and illustrating the W & G Superlock overseaming machine. — WILLCOX & GIBBS SEWING MACHINE CO., 214 W. 39th St., New York 18, N. Y.

919 **FEED-OFF-THE-CAM FELLING MACHINE** — Bulletin No. 896, illustrates and describes the "Feldlock" with Automatic Lubrication, for lap seam felling on shirts, pajamas, shorts, slacks, etc.—WILLCOX & GIBBS SEWING MACHINE CO., New York, N. Y.

MATERIALS HANDLING

1001 **HOW TO DETERMINE WHERE OVERHEAD MATERIALS HANDLING EQUIPMENT CAN BE USED PROFITABLY**—Profusely illustrated. Gives clear, concise understanding of materials handling. Helps you to determine where and what equipment might be used to speed production and increase profits.—CLEVELAND TRAMRAIL DIV., Wickliffe, Ohio.

1003 **CASTERS AND WHEELS**—192 pages, describing casters and wheels suitable for all types of industrial applications. Every mechanical engineer and purchasing agent should have this.—DARNELL CORP., LTD., Long Beach 4, Calif.

1006 **LANE CANVAS BASKETS**—16 page illustrated booklet describing the Lane line of canvas baskets for textile use.—W. T. LANE & BROTHERS, Poughkeepsie, N. Y.

1007 **OVERHEAD HANDLING EQUIPMENT** — 56 pages of illustrations showing successful applications of monorail systems to meet every kind of handling problem. — THE AMERICAN MONORAIL CO., 13106 Athens Ave., Cleveland 7, Ohio.

1009 **CANVAS PRODUCTS**—A complete listing with illustrations of Dandux Canvas Products. For easy fingertip reference and handy file size. Brief but factual information.—C. R. DANIELS, INC., Daniels, Md.

1011 **TEXTILE TRUCKS** — Booklet describing doff boxes, frames and trucks, yarn, waste, platforms, conditioning, steep lap, fiber, utility trucks, etc. Uses and description.—EXCEL TEXTILE SUPPLY CO., Lincolnton, N. C.

1025 **ELECTRIC HOISTS AND CRANES** — Booklets describing a complete line of Electric Overhead, Cab and Floor-Operated Traveling Cranes, and a similar complete line of Electric Hoists. All fully discussed with pictures and engineering diagrams. SHEPARD NILES CRANE & HOIST CORP., Montour Falls, N. Y.

1030 **C-D HOLLOW WARE**—This 2-page catalog, R-11, profusely illustrated in color, shows Continental-Diamond's line of boxes, trucks, cans, barrels, baskets and trays. Complete description and specifications are given on each item. — CONTINENTAL-DIAMOND FIBRE CO., Newark 38, Del.

MISCELLANEOUS

1101 **AUTOMATIC BOBBIN REFINISHER** — A descriptive bulletin illustrating and describing method of refinishing throwing bobbins on a production schedule.—J. M. NASH COMPANY, 2300 N. 39th St., Milwaukee, Wis.

1102 **BALING PRESSES**—An illustrated folder describing this manufacturer's complete line of balers for all materials. Both Downstroke and Upstroke models.—ECONOMY BALER CO., Ann Arbor, Mich.

1103 **UNBRAKO SCREWS**—Illustrated 16-page booklet No. 570 gives data on Unbrako hollow set screws, with knurled point, self-locking features. Includes miscellaneous screw and locking nut data.—STANDARD PRESSED STEEL CO., Jenkintown, Pa.

1111 **BRUSHES**—A 26-page booklet is now available which describes and illustrates this manufacturer's line of brushes for the textile industry.—GASTONIA BRUSH COMPANY, Gastonia, N. C.

1112 **THE RANDOM WEB PROCESS**—Bulletin No. 101 describes the Rando-Webber and Rando-Feeder machines, and discusses the origin and development of the Random Web process which produces a non-oriented web suitable for processing into felts, wadding, heavy mats and non-woven fabrics on a continuous basis. Engineering data and cut-away diagrams.—CURLATOR CORPORATION, Textile Division, 565 Blossom Rd., Rochester, N. Y.

October, 1951

Please send, without obligation, additional information on booklets described (give Key numbers) .....

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Personal NOTES

ABOUT MEN YOU KNOW

T. V. Hughey, formerly with Gem Rayon Mills, Inc., has joined the Myerstown (Pa.) Manufacturing Co., as general superintendent.

Dr. J. L. Vaughan was recently elected president of the Institute of Textile Technology, Charlottesville, Va., having been a member of the University of Virginia engineering department staff for the past 21 years and having served as consultant to the Institute for the past four years. **Dr. Jack Compton** will continue to direct the research program, and **T. L. W. Bailey** is now assistant to the technical director in charge of mill contact work.

C. M. Henderson and **W. L. Lassetter** were recently elected to the board of Mandeville Mills, Carrollton, Ga.

Vanity Fair Mills, Inc., has announced the transfer of **M. O. Lee** from its Alabama plant to Reading, Pa., to become vice-president in charge of operations. **Ward M. Ostberg** has been appointed director of manufacturing in Alabama.

W. S. Nicholson has retired as treasurer of Darlington (S. C.) Manufacturing Co. He is succeeded by **James M. Deland,** formerly with Monarch Mills.

John E. Bell, previously with Carter Fabrics Corp., has been made assistant to the president of Stonecutter Mills Corp., Spindale, N. C.

J. D. Erwin, overseer of the cloth room of Pepperell Manufacturing Co., for 40 years, was complimented, on his retirement, at a dinner given in his honor.

W. P. Clement, with the firm since 1944, has been made superintendent of the rayon division of Rock Hill (S. C.) Printing & Finishing Co.

J. T. Crandall has succeeded his father, now deceased, as president of Ashaway Line & Twine Manufacturing Co., Westerly, R. I. His son, **L. R. Crandall,** assumes his former position as secretary and treasurer.

J. A. White has been named assistant general manager of the Carter Fabrics operating groups of J. P. Stevens & Co., Inc. His former posi-

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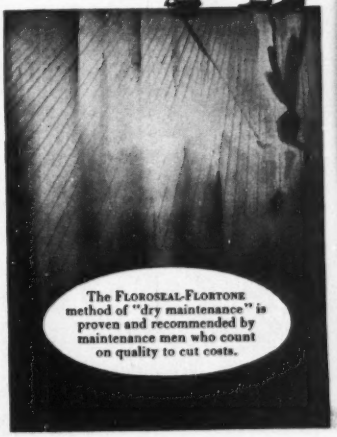

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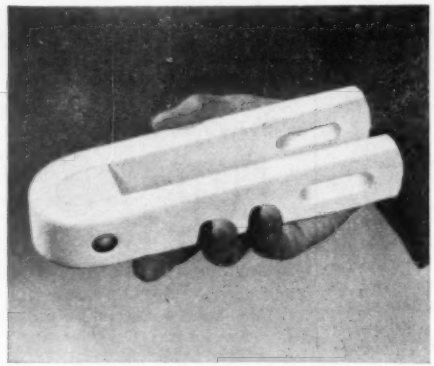

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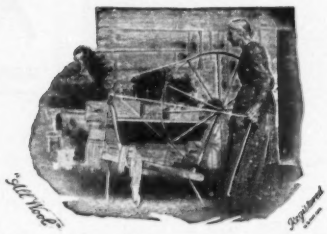

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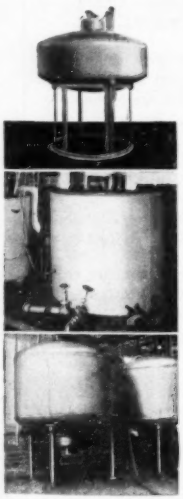

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Clipper Hooks are made of the finest quality wire—BETTER than ever before—produced for our exclusive use. Hooks hold with firm, sure grip—give longer satisfactory service.

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tion as general manager of Republic Cotton Mills has been assumed by **Carl A. Johnson.**

Fred R. Thomas has become president and general manager of Illinois Knitting Co., Mt. Vernon, Ill., succeeding **John R. Hoffman,** retired.

F. Sadler Love has replaced Lt. Col. Frederic W. Dennis, Jr., as president of the Charlotte, N. C., chapter of the Quartermaster Association. Mr. Love is secretary-treasurer of the American Cotton Manufacturers Institute, Inc.

George Tucker of the Talladega (Ala.) Cotton Factory, was recently elected president of the Birmingham chapter of the Society for Advancement of Management.

Fred W. Noechel, recently with Callaway Mills Co., has become associated with Deering, Milliken & Co., Inc., as assistant to the general manager of the Johnston (S. C.) Worsted Mills.

Because of ill health, **Alfred M. Zimmerman** has resigned as superintendent of the Manchester, N. H., dyeing and finishing plant of Textron, Inc.

Formerly with Brampton Woolen Co., **Arthur J. Yetman** is now overseer of carding at Vermont Textile Co., North Montpelier, Vt.

Raymond L. Small, formerly with Wyandotte Worsted Co., is now superintendent at L. W. Packard & Co., Inc., Ashland, N. H.

John Boyd has succeeded Dante Bianchi, resigned, as superintendent of dyeing at Shamokin Piece Dye Works.

Paul M. Stoner has been made general industrial foreman of woolen textiles at Auburn (N. Y.) State Prison.

Robert Pursley, formerly in the mercerizing department of Standard-Coosa-Thatcher Co., is now assistant director of the industrial relations department.

Roy W. Clements was recently made president of Globe Knitting Works, Grand Rapids, Mich., succeeding Grover C. Good, now chairman of the board.

Lyndall F. Carter, vice-president, recently celebrated his 25th anniversary with The William Carter Co. In commemoration of the event he was presented with a service pin by his father, **Horace A. Carter,** executive vice-president, who has been with the company for the past 66 years.

James S. Bonner is now assistant superintendent at the Lane Cotton Mills Co., New Orleans, La.

E. L. Holt, formerly with Atlantic Cotton Mills, Macon, Ga., is now

Mr. Holt

Mr. Ellington

superintendent at Piedmont Cotton Mills, East Point, Ga. **Jesse Ellington** has been made assistant superintendent.

J. O. Elsmore has been named superintendent of the Clarkesville, Ga., mill of United Merchants and Manufacturers, Inc.

Personal NOTES ABOUT MEN YOU KNOW

Lyman L. Bryan has joined the staff of the National Cotton Council as associate in public relations. He has been assistant director of public relations at the Pan-American Refining Co., Texas City, Tex.

Marcus W. Carter, formerly vice-president and manager, has been elected president of Hart Cotton Mills, Tarboro, N. C. Other officers named are: **M. Weldon Rogers,** vice-president; **George R. Elmore,** secretary and treasurer; **Miss M. Gracie Boykin,** and **E. C. Mueller,** assistant secretaries and assistant treasurers.

Darrius W. Broadwell, formerly superintendent of the Victor Monaghan Co.'s plant in Greenville, S. C., has been promoted to superintendent of planning for the firm's Apalache, Greer, and Victor plants at Greer, S. C., and the Monaghan

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"H-W" CONDITIONER®

For woolens and worsteds, the "H-W" Conditioner principle of twist setting is unexcelled for turning out better and always uniform yarn. The yarn is subjected to treatment with a true water vapor or gas which, instead of coating the surface of the material, penetrates uniformly to the interior. The air is saturated with moisture, yet there are no particles of moisture floating around to be deposited on the material. By setting the automatic controls to deliver any definite temperature and relative humidity, the Conditioner will function uniformly and accurately, load after load. No excessive temperatures are ever used, thus no oversteaming to cause yellowing of yarn.

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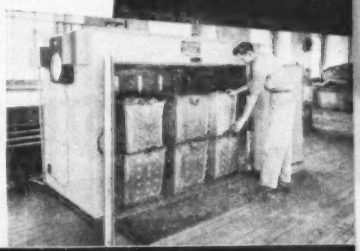

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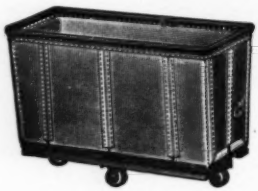

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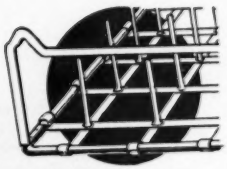

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Your safest, cheapest way to handle this important maintenance "must" is to use job-designed Oakite Cleaning and rust-proofing compounds.

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THE PRINCIPAL MILL SUPPLY HOUSES AND CARD MAKERS

plant at Greenville. **Otis E. Little,** previously assistant to the superintendent of the plant at Greer, succeeds Mr. Broadwell as superintendent of the Monaghan plant in Greenville.

Albert B. Moss, formerly plant manager, has been named resident manager of Wortendyke Manufacturing Co., Waynesboro, Va. He succeeds M. A. Simons, resigned.

Ronald C. Forrest, director of the Carded Yarn Association and Alabama Cotton Manufacturers Association, has been made executive director of the Philadelphia Textile Institute Foundation.

S. Herschel Harris was recently elected to the newly created position of vice-president in charge of production for Standard-Coosa-Thatcher Co.

Andrew Walls, with the American Woolen Co., since 1899 and currently vice-president in charge of woolen manufacturing, retired on September 1.

Saul Ludwig has been elected vice-president in charge of sales for Barbet Mills, Inc. He was formerly with the Windsor Co., and the Madisonit Co., and has been associated with the knitting industry for 25 years.

Alfred M. Zimmerman, active in the textile industry since 1938, has been made general manager and will be in full charge of plant operations for Cold Spring Dyeing & Finishing Co., Inc., Beacon, N. Y.

Textile School Graduates Enter Industry

Lowell Textile Institute

Joseph J. Churchville, B.S. in Textile Manufacturing (wool option); employed by Collins and Aikman, Philadelphia, Pa.

David Karpoff, B.S. in Textile Manufacturing (wool option); employed by Alexander Smith and Sons Carpet Company, Yonkers, N. Y.

John J. Kelleher, B.S. in Textile Chemistry; employed by Hampton Mills, Easthampton, Mass.

Melvin B. Landis, B.S. in Textile Engineering (general manufacturing); employed by Holyoke Yarns, Worcester, Mass.

Thomas J. Maguire, B.S. in Textile Engineering (general manufacturing); employed by the General Electric Company, Lynn, Mass.

Gregory J. Pellicione, B.S. in Textile Chemistry; employed by Warwick Mills, Boston, Mass.

Raymond J. Quinn, B.S. in Textile Chemistry; employed by the Hub Hosiery Mills, Lowell, Mass.

Henry J. Swiatek, B.S. in Textile Chemistry; employed by the M. T. Stevens Company, North Andover, Mass.

Donald Wiener, B.S. in Textile Chemistry; employed by the Sidney Blumenthal Company, Shelton, Conn.

Personal NOTES ABOUT MEN YOU KNOW

Obituaries

On August 3 **Julius C. Gregson,** 82, died. A pioneer cotton mill owner, Mr. Gregson was a founder of Hadley-Peoples Manufacturing Co.

Benjamin M. Rogers, 71, superintendent of the Oakboro (N. C.) Cotton Mill for 27 years, died on August 18.

Funeral services were held on August 10 for **Robert E. Rockwell,** 42, president of Rockwell Woolen Co., Leominster, Mass.

Donald A. Buchan, 43, southern representative of the Davis & Furber Machine Co., died on August 20.

William C. Johnson, executive vice-president of Allis-Chalmers Manufacturing Co., died suddenly on July 26 at the age of 49.

Ernest F. Bower, 54, chemist and dyer for Faulkner & Colony of Keene, N. H., died recently.

David Walker, 79, overseer of mending at the Hayward-Schuster Woolen Mills, was killed on July 2 in an automobile accident.

On July 24 **Henry B. Barnet,** 71, died. He was president of William Barnet & Sons, Inc.

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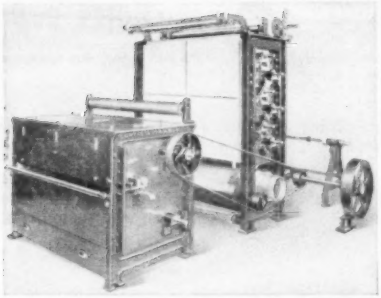

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With Vertical Brusher and Type SF Winding Head

This outfit is used for applying starch to rubberized or other coated fabrics. The starch, powder, talc or other material is first applied to the goods and then the surplus is roughly removed; the brushes of the Vertical Brushing Machine will remove the remaining starch and leave a smooth uniform finish. The goods are rolled up usually on a Type SF Winding Head. There is a feed trough in the Starch Frame which is filled with the starch or other powdered material. The starch is fed down through perforated metal in the bottom of a trough to apply it evenly to the fabric as it enters the Starching Frame. A revolving roll with leather wings runs in the lower part of the trough.

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Printers and Publishers

News in Brief

(*Continued from page 99*)

ery, the packaging engineer can read a "play-by-play" description of what happened, impact-wise, along the package's route. The instrument is made by Impact-O-Graph Corporation of Cleveland, Ohio.

Casualty Evacuation Bag. Developed by the Army Quartermaster Corps, a casualty evacuation bag will be utilized for evacuation of casualties from areas where temperatures may reach 50 degrees below zero. The insulated bag is windproof, water-repellent, and equipped with zippers which allow medical treatment of injuries without exposing uninjured parts of the body to the cold. The bag is large enough to contain an individual in complete Arctic clothing, with additional space for splints.

Large Crop of American Egyptian. The Department of Agriculture has predicted a crop of 45,200 bales of American Egyptian cotton for 1951. Last year's crop was 64,000 bales, but the current crop will exceed the 10-year average of 25,400 bales.

25% Tax on Neckwear? A 25 per cent retail sales tax on neckwear has been proposed by Senator Ralph E. Flanders (R-Vt.). The Men's Tie Foundation, Inc., trade association of the neckwear industry, called the proposal "no laughing matter to the neckwear industry," and cited the measure as discriminatory, undemocratic, and unrealistic.

Textile Scholarships Offered. Up to 25 four-year scholarships worth $2000 each will be awarded in 1952 to high school graduates who wish to take textile courses at any of four textile colleges in New England. Sponsoring organization is the New England Textile Foundation, which has made similar scholarship awards annually since 1946. Funds are contributed by companies in the textile and related industries who see the textile industry's need for college-trained and technically educated recruits.

Rayon Bags for Housewives. Bags made of rayon cloth are being used as containers for various commodities and distributed nationally. Rayon offers an excellent printing surface for direct multicolor brand printing, and whether printed directly onto the cloth with water soluble inks or on paper bands adhering to the bags, the material provides a valuable cloth premium for thrifty housewives to use. When washed, the rayon becomes soft enough for making delicate clothing and household items such as blouses, shirts, pillowslips, luncheon cloths, and napkins.

Glass Fibers. Glass cloth and fibers are being used as reinforcing material in molding polyester resin plastic products. This construction is suited to molding large objects—36-ft boats, for example. The resins are molded at low temperatures and with low pressures, so that large ovens and presses are not required. The principal obstruction to wide use of this plastic now lies in the fact that most of the resins include styrene, which is now largely allocated to manufacture of synthetic rubber.

"Fire-Resistive" Dynel Approved. The New York City Board of Standards and Appeals has approved drapery fabric of dynel staple and "Vinyon N" filament yarns as "fire-resistive" and acceptable for use in decorative materials, draperies, and curtains in places of public assembly in the city.

Cotton Displays Termed Successful. Exhibits displaying current cotton fabrics and fashions at schools and clubs have met with success in stimulating interest in cotton apparel and home furnishings this year, according to letters received by the National Cotton Council. The displays are booked without cost by writing Fashion Director, National Cotton Council,

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Good Ideas Require Appropriate Presentation. The difference between a report which encourages consideration and one which merely invites irritation is essentially the difference between the presentation which emphasizes what has been found as compared with a chronological account of events. Too few technical men project their thoughts into the problems of the executive who may have to make the final decisions for future action.

Film on Instrumentation. A narrated 30-minute, 16 mm color moving picture depicting the growth and significance of instrumentation is titled "Information at Work" and has been released by the Taylor Instrument Companies of Rochester, N. Y. The film may be borrowed without cost.

Plant Maintenance Show. A Plant Maintenance Show is to be held at Convention Hall, Philadelphia, January 14-17, 1952. The exposition, held for the first two years in Cleveland, has been moved to Philadelphia to permit greater attendance from the eastern industrial area. Concurrently with the show, the Plant Maintenance Conference also is to be held.

Fellowship Awarded by Wool Bureau. Gerald Laxer, assistant development and research chemist in the carpet division of Alexander Smith, Inc., Yonkers, N. Y., is the recipient of the first Anglo-American fellowship awarded by The Wool Bureau, Inc., for study in England. Mr. Laxer is to begin his studies for a Ph.D. degree at Leeds University in England on October 1 under Professor J. B. Speakman, a pioneer in the systematic study of wool fiber characteristics.

"How to Think More Efficiently." Offered to business and industry for mass distribution to executive and plant employees, a 24-page booklet is illustrated for light reading and summarizes the shortest steps one should follow in defining and solving problems. Titled "How to Think More Efficiently," the vest-pocket booklet is available from Edward F. Walsh, executive secretary, Hackensack Chamber of Commerce, Hackensack, N. J.

European Tests for Color Fastness. Officials of the AATCC have noted that most tests for color fastness in Europe have been set up to simulate hand rubbing and washing instead of mechanical laundry machine simulation as practiced in America. The hand rubbing test is employed because of the smaller percentage of home mechanical and commercial laundry machines in use in Europe. Sunfastness in England is based on actual roof exposure which, in many instances, takes a year to get accurate final light fastness of a dyestuff or fabric.

"Proclamation of Quality." If the defense program demands further restrictions on the use of critical raw materials, Westinghouse will discontinue making any appliance whose quality might be "adversely affected," according to a proclamation issued by Gwilym A. Price, president.

Dyeing at the Turn of the Century

(*Continued from page* 131)

his long handled spoon, he scooped up a load of Cochineal paste. "A little yellow," and he scooped up a load of Quercitron paste. "And a little blue," as he continued his routine with a scoop of indigo paste. "Just be sure that you don't use too much of any one of the colors."

The dye pastes were well dissolved in the boiling liquor. The steam was shut off, and the workmen dipped the skeins into the bath. After drawing the skeins three times to the end of the dye-

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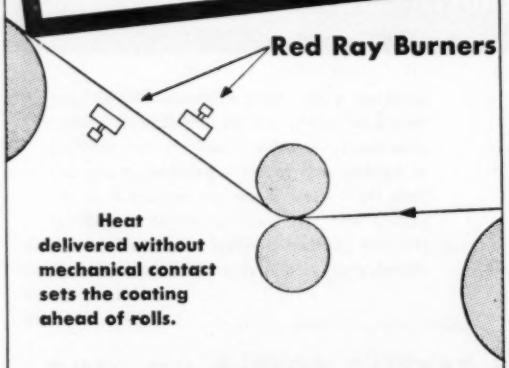

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box or tub, the two operatives would "throw up" the entire lot out of the bath and lay it on sticks. By this time the boss dyer would be ready to make an addition of dye pastes to the bath, in order to "hit the shade." In most instances, this was sufficient to match the shade exactly. All this processing was done in open kettles, with not even one dyeing machine in the establishment.

Fumes of Nitrous Acid. Wool dyeing had come to an end and after four months of practice the young fellow wended his way to the Continental Dyeworks, then operated by Thomas Harris and his sons, also in the Kensington area of Philadelphia. Here cotton yarn was dyed with diazotized blacks. The process had been developed just a few years before.

As far back as 1880, Read Holliday and Sons, of Huddersfield, had taken out patents for the method, but many practical difficulties had to be overcome. By the year 1890, the Weber Company of Winterthur, Switzerland, had succeeded in producing reds on cotton. And by the year 1900, reds, browns, blues, and blacks were being produced by the diazo process directly on the fiber in the dyehouse.

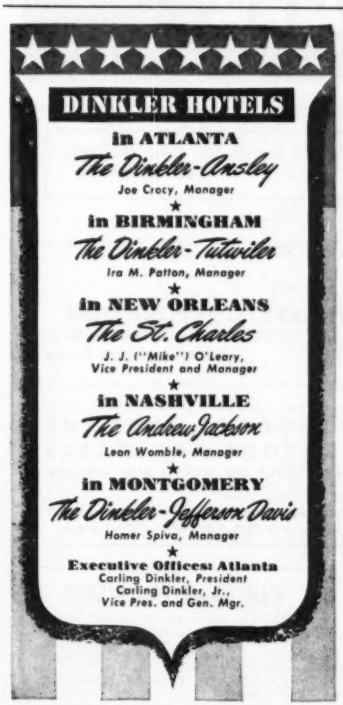
In order to prevent the decomposition of the sensitive diazo compounds before the color was developed, the operatives would place a few hundred pounds of ice in the diazo bath. Walter Harris, who was general superintendent of the dyehouse, spent much time in working out the details of the process in his plant. The whole department where these blacks were dyed, was so cold that the workmen wore jackets while working all through the year.

The Harris Dyeworks was far in advance of many others in that it had a well equipped laboratory, with a large stock of special chemicals. All the unusual shades were dyed in the laboratory before the big batch was tackled, and all dyes were carefully weighed before being added to the bath.

The Esthetic Side. In conversation with one of the boss dyers, it was revealed that, as late as 1896, the calico printers had been treating their fabrics in a hot bath containing a dispersion of cow dung. The idea was to fix the mordant on the cotton fiber more thoroughly, and to remove any unfixed mordant from the cloth.

The whole thing seemed so unesthetic that the young fellow decided to keep away from all calico printworks, and when he discovered that some cotton indigo dyers used a vat made up with 500 quarts of stale urine, he also decided to stay away from all indigo cotton dyers. The prejudice was not really well founded, because the natural materials had gone out of use some years before.

Many years ago a story was told by an old German who had been born in the year 1833. He told how he had large casks placed in certain taverns, for the daily collection of the ammonical liquid. Each day the casks were carted to the wool scouring plant. And here the "wool in grease" was carefully scoured by skilled workmen. The wool so scoured, yielded yarns of exceptional quality.



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Wanted

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WEAVING SUPERINTENDENT

Interested in six to twelve months' position in South America to introduce warp preparation and filament rayon and spun rayon constructions. Must be able to select and introduce rayon fabrics consistent with equipment available in local mills. Salary $1,000 per month. Reply to Box No. 453, TEXTILE INDUSTRIES, 806 Peachtree Street, N.E., Atlanta 5, Ga.

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interested in six to twelve months' position in South America to introduce latest dyeing, finishing, and crease-resistant techniques for spun rayon fabrics. Salary $1,000 per month. Reply to Box No. 454, TEXTILE INDUSTRIES, 806 Peachtree Street, N.E., Atlanta 5, Ga.

ENGINEER WANTED

Textile Finishing Equipment Background. Expanding New England machinery builder and fabricating plant has opening for a progressive engineer to originate equipment designs to suit industry requirements. Ability to engineer and supervise projects from design stage to completed installation essential. Knowledge of production costs desirable. Permanent position. Salary open. Reply to Box No. 464, TEXTILE INDUSTRIES, 806 Peachtree Street, N.E., Atlanta 5, Ga.

POSITION OPEN FOR DESIGNER-DRAFTSMAN

Textile finishing equipment manufacturer has opening for experienced draftsman capable of designing and detailing equipment from engineering layout. Excellent opportunity with growing New England organization to take over supervision of drafting department. Reply to Box No. 465, TEXTILE INDUSTRIES, 806 Peachtree Street, N.E., Atlanta 5, Ga.

WANTED

ENGINEER-ESTIMATOR

Excellent opportunity for permanent position with progressive New England Textile Finishing Equipment Fabricator. Qualified engineer preferably with cost estimating experience to assist in design and preparation of cost estimates. Fabricating shop experience desirable but not essential. Reply to Box No. 466, TEXTILE INDUSTRIES, 806 Peachtree Street, N.E., Atlanta 5, Ga.

SCREEN PRINTING

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TEXTILE PROCESSING CO.
P. O. Box 742 Cleveland, Tenn.

Wanted

Job as overseer or second hand over warp preparation. Have over 20 years experience in slashing, spooling, warping and tie-in machine on colored and plain yarn. The last ten years as overseer and second hand. Am good manager of help. Can furnish good references. Reply to Box No. 467, TEXTILE INDUSTRIES, 806 Peachtree Street, N.E., Atlanta 5, Ga.

WANTED: Production Engineer, experienced in time and motion studies, materials handling, improved operating methods, etc. Plant located in South, operating cotton mill, finishing plant and cutting up piece goods. Permanent position with attractive compensation and opportunity for advancement. State engineering education and experience, age, marital status, give references. Applications kept confidential if requested. Reply to Box No. 471, TEXTILE INDUSTRIES, 806 Peachtree Street, N.E., Atlanta 5, Ga.

MANAGER or SUPERINTENDENT AVAILABLE

Textile graduate, 25 years manufacturing shaft and Jacquard decorative fabrics and monofil plastics fabrics. Expert on shaft or Jacquard box looms. Good teacher and handler of help. Thorough in all departments. Jacquard and shaft designer. Can start new mill and get quality production quickly. Prefer Southern locale. Reply to Box No. 473, TEXTILE INDUSTRIES, 806 Peachtree St., N.E., Atlanta 5, Ga.

Practical mill man, age 34, well trained and experienced in designing, planning and loom fixing desires a job where these skills can be employed to a mutual advantage. Complete resume and references on request. Southern location preferred. Reply to Box No. 468, TEXTILE INDUSTRIES, 806 Peachtree Street, N.E., Atlanta 5, Ga.

Wanted

Asst. Superintendent cotton weaving mill thoroughly experienced. Must be familiar with dobbies, Jacquards, Draper and Crompton & Knowles. State background and references in first letter. Steady position. Good opportunity for first class man. Paterson, New Jersey, area. Write P. O. Box 204, Clifton, New Jersey.

Will be available by the first of the year for position as superintendent. Prefer small or medium size yarn mill. Reply to Box No. 472, TEXTILE INDUSTRIES, 806 Peachtree Street, N.E., Atlanta 5, Georgia.

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Mc BRIDE **TEXTILE EQUIPMENT NEWS**

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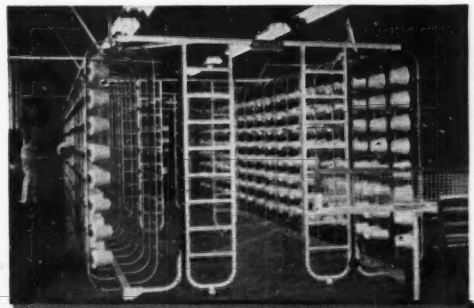
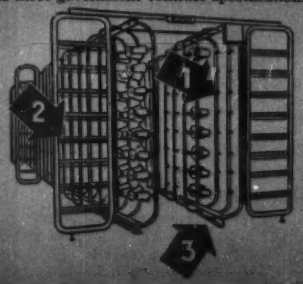


McBRIDE MAGAZINE CREELS SPEED WARPING—CUT WARPING COSTS

The photographs on this page show typical installations of McBride SRM magazine creels. Every one of them is equipped with McBride patented Swinging Arms, Universal Cone Holders, Double Post Disc Type Tension Units (1), and McBride instant action Electro Magnetic Stop Motion (2), McBride monorail construction (3) means easy cleaning. Yet the thing most typical about these creels is their difference! Each is engineered to the needs of the user.

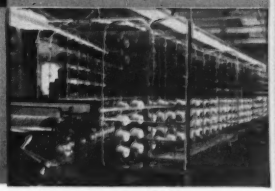
McBride Magazine Creels can be assembled for outside loading with yarn coming down the center as in the silk and rayon system, or with inside loading and yarn coming down the outside as in the cotton or wool systems.

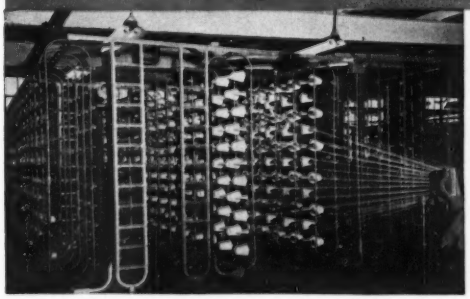
This McBride magazine creel has given a prominent narrow fabric weaver versatility to prepare alternate nylon and cotton warps to meet government contract specifications.



Woolen and worsted ball warps are quickly prepared by this prominent eastern spinner with the aid of this McBride SRM Magazine Creel.

This creel for high speed warping of woolen and worsted pattern fabrics has cut warping costs over 80% for a prominent Pennsylvania manufacturer.





This compact tandem assembly has cut warp preparation costs by ¾ for this narrow fabric weaver.

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Every McBride Creel is engineered to the type of yarn and weave, the space available, the warping equipment and other specific requirements of the individual mill. McBride engineers work with your superintendent and plant engineers to make "on the job" layouts in your mill. This individualized engineering service is part of every McBride installation—at no extra cost to you.

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